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Hereditary Defects of the Eye in Dogs.

By Henry Gray, M.R.C.V.S.

I have on several occasions drawn attention, in the pages of the *Veterinary Record* and also of other journals, to the anomalies of the eye in the dog and other animals. In a paper on "Distichiasis," which appeared in the *Veterinary Record*, May 29th, 1915, I claimed that, as far as I was aware, I was the first to point out that this anomaly—distichiasis—often occurred in various breeds, that it, like trichiasis, was congenital or hereditary and that it followed the law of Mendel. I had, however, described it in the English edition of Nicolas's *Veterinary and Comparative Ophthalmology* published in 1914. Neither Möller nor Bayer mention it in their French classical works. Nicolas in both of his book editions (1908, 1928) does not refer to it. Cadiot and Almay in the third edition (1923) of their *Traité de Thérapeutique Chirurgicale des Animaux Domestiques* briefly describe it and state that is very rare. In their former two editions they do not mention it. Vachetta, in his work "Oftalmojatria Veterinaria," published at Pisa in 1892, described it but did not say if it occurred in any of the domestic animals. It is briefly alluded to under the denomination of *Distichiasis congenita* on p. 119 of Dr. Heinrich Jakob's *Tierärztliche Augenheilkunde*, Berlin, 1920, but there is no mention of its having been observed in the dog.

Probably the reason why it has not been observed by Continental authorities who had paid a great deal of attention to veterinary ophthalmology, is that in their countries there is a much smaller number and fewer varieties of inbred pet dogs, which are more subject to anomalies of the eye than the larger, more carefully bred animals.

From what one reads in current literature, professional as well as lay, on certain conditions of the eyes in dogs, one gathers that there is a good deal of confusion as to the true meaning of the terms used and as to the conditions to which they should be applied.

Trichiasis in often employed to denote the turning in or backwards, or inversion of the eyelashes, whereas it is nothing of the kind. It should be applied to the drooping of the eyelashes of the normally situated eyelid on to the upper part of the cornea where they may cause more or less friction, profuse lacrimation, not infrequently opacity and sometimes ulceration.

Distichiasis, on the other hand, is a term used to designate that congenital anomaly in which hairs issue from the outlets of the Meibomian glands along the intermarginal portion of the eyelids. The hairs seem to take the place of the glands, but not infrequently they may also be seen springing from the conjunctival face or inside of the eyelids. As there are no eyelashes in the normal lower eyelid in the dog, the term distichiasis applied to the condition in that lid would be a literary misnomer. Sections of eyelids long affected with this anomaly often show more or less degenerative inflammatory changes. These aberrant hairs, especially if short and stumpy, as they often are—probably from being cut—set up a more or less deep ulceration, sometimes in more than one spot. If the offending bodies are removed by epilation the ulceration rapidly disappears. The longer and finer hairs act similarly to those in trichiasis.

Both trichiasis and distichiasis are mostly seen in short-faced dogs with prominent eyes and a shallow orbital cavity, diminished corneal and palpebral reflexes with sluggishness in retracting the eyeball and closure of the lids and, in consequence, slowness in the elevation of the membrana nictitans. Such generally occur in the Pekingese, Japanese and British varieties of Toy spaniels, French and British bull-dogs and the pug. Trichiasis is, however, frequently seen in the Toy variety of Pomeranian, which often has open fontanelles and generally a difficulty in discarding the primary teeth, which are in most cases fewer in number and cramped in position. I have in some instances encountered distichiasis in fox-terriers—generally with more or less pigmentless eyelids.

The damage done to the eyeball is, as a rule, in proportion to the prominence of the eyeball and the power or degree of its retraction. In a very large number of such dogs as the Pekingese the power of retraction of the eyeball, the closure of the eyelids and raising of the membrana nictitans is very slight. The orbital cavity is very shallow, and the eyeball is in advance of the orbital rim, being for quite two-thirds only protected by the very mobile eyelids and skin. Even the corneal surface is very insensitive. In many of these dogs there is very little, if any, attempt to close the lids when the cornea is touched with the finger.

In consequence of the very low degree of corneal sensibility, the sluggishness of the corneal and palpebral reflexes, and the retraction of the eyeball, and of the passive raising of the membrana nictitans, such breeds are more liable to receive damage to the front of the eyeball than the long-faced dogs with deeper-set eyes, or rather eyeballs, that can rapidly be protected by retraction of the eyeball, firm closure of the eyelids, and the corresponding rapid passive raising of the membrana nictitans.

Dogs with prominent eyeballs which are not capable of being withdrawn or protected by rapid closure of the eyelids, are more subject to trichiasis than the dogs with deep-set eyeballs. They are, in consequence of this and the comparative insensitiveness of the cornea to touch, more liable to injuries or diseases of the cornea or even of the whole eyeball. The majority of such dogs have little or no development of the sagittal crest; the fontanelles often remain open the duration of life, some have very little or no bone covering the top of the skull, the brain in such instances being protected by a thick membrane. In others,

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where there is bone it is thin and translucent, resembling celluloid. In short-faced dogs there are fewer bones in the skull. All have fewer teeth than the normal dog—rarely more than 35 and not infrequently as few as 28. The teeth, especially the incisors, seem implanted in cartilage, or partially so. They are most liable to spinal neuritis and spinal pachymeningitis followed by paraplegia.

Most of them in reality suffer from imperfect osteogenesis, partly from the selection for breeding of hereditarily imperfect specimens and partly from malnutrition arising from an improper dietary. The Pekingese dog, brought to this country by British officers after the Boxer Rising, was a splendid big dog with a handsome appearance and a unique frame. Apparently we breed from any rubbish, which often obtains prizes even where it is congenitally malformed or an hereditary cripple or has external squint. Umbilical, inguinal and scrotal herniæ are more frequent in this than in any other breed. Whole litters show the defect. Not uncommonly the whole length of the linea alba region is herniated.

In a future paper I shall deal with entropium as it has appeared to me in my career. The close study of the dog's head would fill several volumes. No class of animal possesses so many variations in structure or anomaly. The proper study of the teeth would form a volume.

Royal Agricultural Society.

Fate of the Royal Veterinary College.

At a meeting of the Royal Agricultural Society of England held on November 6th, the serious position of the Royal Veterinary College was emphasised by Sir Merrik Burrell, chairman of the Veterinary Committee. The Governors of the college, he said, had tried by every means in their power to raise the necessary money to rebuild and maintain the college, but their efforts had been more or less unfruitful. At the last meeting of the Governors of the College a letter was sent to the Ministry of Agriculture, and the Governors had told the Ministry that if no further help was given they would no longer be responsible for carrying on the College and would gradually close it down. If that happened, Sir Merrik Burrell said, he did not know how the supply of veterinary surgeons would be kept up, but if the nation, either through public funds or private subscriptions, would not carry on the College, the building would fall down and the staff would be dispersed because it could not be paid.

Sir Archibald Weigall, as treasurer of the Royal Veterinary College, associated himself with Sir Merrik Burrell's statement, and said that six months ago he told the Governors unless the Government came to their help he would no longer be responsible for the finance of the Institution.

Scholarships for Training in Veterinary Surgery.

At a recent meeting of the Denbighshire Education Committee, held at Chester, Mr. W. Aston suggested that scholarships for veterinary surgeons should be offered for competition, as there was no walk in life at the present time which offered so many favourable opportunities as that of the veterinary surgeon. Advertisements were appearing for Assistants and the sale of veterinary surgeon's practices, and it was very difficult to find men to fill vacancies. They ought to encourage their young men to go into the profession, and he hoped it would be an instruction to the committee to consider the establishment of scholarships for training in veterinary surgery.

It was decided to refer the matter to the Finance Committee.

Status of the Vaccination of Dogs against Distemper.*

By Norman J. Pyle, Pearl River, N.Y.

Considerable attention has been focused upon canine distemper within recent months. This has been due, largely, to the wide publicity given the reports of Dr. P. P. Laidlaw and Major G. W. Dunkin in both the public and medical press, and also to the extensive use of their vaccine-virus treatment in this country and the British Isles. Dog lovers have contributed generously to the English and American distemper funds, which have financed the English investigations at the Mill Hill Laboratories, London, and the wide interest is only natural.

The treatment recommended by these investigators has now been used in this country for several months and for a longer time in England. The results of the immunization process have been highly successful in both countries. There have been some failures, some of which have been apparent only, as determined upon investigation. The fact that these unsatisfactory cases have tended to occur in groups and in various restricted sections of the two countries has given an exaggerated impression of their frequency and importance.

Before discussing the results of the Laidlaw-Dunkin prophylactic, it would be well to consider, briefly, a few facts concerning canine distemper, as we now know it, and the nature of the Laidlaw-Dunkin vaccine and virus.

Canine Distemper and its Treatment.

Laidlaw and Dunkin conclusively proved that a filtrable virus, first demonstrated by Carré in 1905, was the causative agent of canine distemper. They found that distemper of dogs was a specific disease entity; that there was no evidence of several diseases masquerading under one name. Variable types of the disease did occur, however; but they were due to a single agent. They defined canine distemper as "an acute, infectious fever characterised by an incubation period of four days, a coryza at the onset of the disease, an unusual temperature curve, severe gastro-intestinal disturbance, and a variable set of symptoms due to inflammation in the respiratory system. In a small proportion of cases nerve symptoms due to an encephalitis are met with."

These investigators found the virus in greatest concentration in the spleen and mesenteric lymph glands of distempered dogs. It was also present to a great degree in the liver and in the brain of those cases which showed nervous symptoms. It was finally determined that when the spleen, liver and mesenteric lymph glands were removed from infected dogs at the proper time these tissues proved to be good vaccine material. One injection of 5 c.c. of a 20 per cent. formolized suspension of the tissues served to protect against a subsequent injection of active virus.

The initial injection of 5 c.c. of formolized suspension of virus tissue produced an active immunity of several

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months' duration. In order to convert this temporary protection into one of a permanent nature, 0·25 c.c. of a suspension of the live virus was given fourteen to twenty-one days following the first or vaccine injection.

Administration of the Prophylactic.

It is necessary to emphasise that extreme care and good judgment in the administration of this prophylactic are concomitant with its success. The condition of the dog at the time it receives the injections is of vital importance. Its history with reference to recent contact with distemper infection should be ascertained prior to the treatment. It is not advisable to treat a dog that is heavily infested with ascarids or hookworms. Prior to both the vaccine and live virus injections the veterinarian should make a careful clinical examination of the dog and by no means neglect to take the rectal temperature. If there is any deviation from the normal the treatment should be postponed.

The directions as laid down by Laidlaw and Dunkin are being recommended in this country. The vaccine is administered subcutaneously, being injected preferably at two points. A mild pressure massage over the injected area will hasten absorption and prevent tissue reaction. The vaccine consists of dead material and is perfectly harmless if proper precautions are taken in making the injection.

A second injection of live virus is given intradermally fourteen to twenty-one days after the vaccine. It must also be used with care.

The preparation of the site of injection and the syringe should receive careful attention. The hair should be clipped and the skin disinfected with a suitable preparation, such as tincture of iodine. The syringe is best sterilised by boiling. Antiseptics can be used to sterilise the syringe prior to the vaccine injection, but they should not be used for this purpose prior to the use of the live virus: a small amount of the solution will adhere to the barrel of the syringe and exert a deleterious influence on the virus, which is very unstable to begin with.

Efficiency of the Prophylactic.

Many thousands of doses of the prophylactic have been distributed in this country during the past year. Sufficient time has now elapsed to permit of some conclusions, although they must still be far from final, regardless of whether they are positive or negative in nature. As is customary with every new biological preparation, immunological or diagnostic in purpose, it has a difficult and critical road to travel before it is accepted with public acclaim. One of the most specific of such preparations, human smallpox vaccine, has its fallacies. It is but ninety-eight per cent. efficient. Severe reactions sometimes attend its use. Our antitoxins are efficient. No one will question the efficacy of diphtheria and tetanus antitoxins; but they oftentimes fail. They are products that have been accepted during the course of time. They are indicated in the prevention and treatment of diphtheria and tetanus as routine measures. If they fail to serve their purposes in a minority of cases we take it as a matter of course.

We can recall the introduction of hog-cholera virus and serum—the difficulties which were encountered before they were finally accepted. Anthrax spore and rabies vaccines are similar but more recent examples.

The Laidlaw-Dunkin vaccine-virus prophylactic has withstood this critical period. Statistics here and in the British Isles show it to be highly efficient. This conclusion can best be exemplified by briefly considering critical tests of the prophylactic.

One of our prominent medical schools has adopted the procedure of vaccinating all their young experimental dogs after they had given the vaccine-virus a thorough trial. Their report, under the date of January 31st, 1930, reads as follows:—

"One litter of 11 puppies received vaccine. During the interval between the vaccination and virus, three of these puppies died, one with pneumonia, two with suspicious intestinal symptoms suggesting distemper, but they had also been suffering from worms and received worm medicine, so that diagnosis was uncertain. The eight surviving puppies after the proper interval were given the virus. After a period of ten days one of the dogs developed a little sneezing and coughing, again suspicious of respiratory infection. This puppy was put with a healthy puppy unvaccinated in the same cage and it did not become infected; after a few days the sneezing and coughing of the original setter pup cleared up. All of the pups were then placed in our distemper room, where they have remained for over a month. They have been exposed by contact with animals having frank clinical distemper, eaten the same food, oftentimes placed in the same cage—a procedure which with pups of this age would undoubtedly have caused distemper infection to approximately 100 per cent. These dogs have grown well, and I think beyond question show that they have been given a strong immunity against distemper corresponding to that observed after a light infection.

"Ten adult dogs in the stock room were vaccinated against distemper in the usual fashion. Of course, we could not tell whether these animals might have had distemper previously or not, but all of these dogs have remained well, although they have been exposed to distemper in the stock room and in the distemper room.

"Of the anæmia colony six young animals were vaccinated in the usual fashion. One of these three days following the dose of virus developed a little sneezing and coughing, suggesting possibly distemper infection. He was put in with a healthy pup unvaccinated. They both remained well, the vaccinated puppy clearing up the coughing after an interval of a few days. These dogs have all remained well, although they have not been as heavily exposed as some of the others mentioned above.

"Some of the animals have been used for long period experiments with fistulæ, where if there is any tendency to distemper they almost invariably get it, because of their lowered resistance. Of this group one animal developed what I believe was a slight case of distemper, although this cannot be stated with security. At any rate, after isolation for a few days, he cleared up and has remained quite well ever since. We had no susceptible animals to expose to him to test whether this was distemper or not.

"All of this evidence convinces me that the vaccine which we have used gives complete protection to susceptible animals under the environment of our laboratory and the rather severe tests not only in young puppies but in animals whose resistance is lowered through experimental procedures."

The following is the protocol of one of the routine tests at the laboratories:—Five dogs, all of the same litter, were used in the test. Vaccine was given to two of them on November 29th, 1929, and two weeks later, on December 14th, 1929, the second or virus injection was administered. No increase in temperature following the virus injection was noticed. This was, undoubtedly, due to the fact that the preliminary vaccine injection stimulated the production of sufficient active immunity to offset any febrile reaction to the live virus.

On January 11th, 1930, 28 days after the completion of the immunising process in the two dogs, all five (two vaccinated and three unvaccinated) were given 1 c.c. of a heavy suspension of fresh canine distemper virus. The two vaccinated dogs resisted the virus perfectly. The three unvaccinated dogs, or controls, died from acute, uncomplicated distemper in eight, ten, and eleven days respectively.

The clinical diagnosis of the three controls was checked by animal inoculation. A ferret succumbed to distemper following injection with a suspension of combined spleen tissue taken from the dogs.

Report of the British Distemper Council.

The latest report of the British Distemper Council, under the date of March 20th, 1930, says, "In the further evidence now before them, the committee have found no reason to modify their previously expressed opinion that the researches carried out by Dr. Laidlaw and Mr. Dunkin had demonstrated beyond doubt that the method of preventive inoculation devised by them was capable of making dogs resistant to infection by distemper. This conclusion does not rest only upon the results of work done under laboratory conditions, but also on the results of the inoculation by Dr. Laidlaw and Mr. Dunkin of some 2,000 privately-owned dogs and hounds. The success they obtained with an almost negligible margin of exceptions leaves no doubt that the method is practicable, although a difficult one. Further, before commercial issue was undertaken, 2,000 doses of vaccine and virus were distributed gratis by the laboratories to veterinary surgeons on the understanding that they should report their experience. The reports received, although they do not cover the whole of the doses issued, indicate that the results were comparable with those obtained with material prepared at Mill Hill."

The committee's own investigators, also, have made independent inquiries.

"It should be made clear that it is only in a minority of cases that the use of the commercial preparation has been unsatisfactory; 22,000 doses have already been issued, and the evidence of accidents or failures refers only to a small proportion of all the animals treated, although the inquiries to which replies have been received from the veterinary practitioners concerned account for about two-thirds of the total issues of prophylactic. There are, therefore, many thousands of successes to offset the minority of unsatisfactory cases."

Apparent Failures and Untoward Results.

The apparent failures of the vaccine and virus to protect against distemper infection and the untoward results following their administration can be classified under several groups as follows:—

1.—*Cases showing unusual reactions following vaccine or virus injections.*

(*a*) Abscesses have been reported as occurring following the vaccine injection and less often following the administration of the virus. It appears that this is not so common as it was when the treatment was first introduced. More information has been obtained on the proper administration of the vaccine. The 5 c.c. of vaccine contains one gram of tissue and it must be so injected as to facilitate the absorption of this tissue; that is, by subcutaneous injection at two or more points, by rotating the needle as the material is expressed by the plunger, and by massaging the area in order to distribute the vaccine beneath the skin.

This so-called abscess is due to accumulated, unabsorbed tissue vaccine which causes pressure necrosis or a local anaphylaxis. It responds readily to treatment.

(*b*) It has been reported that "fright disease," "fits," or "hysteria" has occurred following the treatment, especially the vaccine injection. This complaint is more common in England than in this country.

"Fright disease" has been prevalent in this country since 1918, long before the advent of the Laidlaw-Dunkin prophylactic. As yet, no satisfactory explanation of its cause has been found. It is very common in kennels under confinement and will spread among dogs in an alarming fashion, apparently by imitation. It has been seen in unvaccinated dogs as well as vaccinated dogs, occurring simultaneously in the same kennel. It is purely a chance occurrence that symptoms of this sort are seen following either of the injections.

(*c*) Cases have been noted where there was some febrile reaction following the live virus injection. It is not uncommon to notice an elevation of temperature on the third to fifth day after the virus injection. Such dogs show a transitory inappetence, but soon recover. If the dogs were not in the proper condition to receive the vaccine and virus, the symptoms are likely to persist and all the features of a natural outbreak of distemper will be evidenced.

2.—*Cases due to the administration of the vaccine and virus at the wrong time.*

(*a*) Cases have occurred where dogs have been given the vaccine injection after having come in contact with canine distemper infection and while the animal was in the period of incubation of that disease. In such cases the vaccine has not had time to develop its state of resistance or temporary immunity and the dogs break with distemper. It is approximately ten days after the vaccine injection before sufficient immunity has been built up to ward off distemper infection.

An instance of this sort was recently investigated. A dog had returned from a bench show and in due time developed symptoms of distemper. The infection was soon spread throughout the kennel. Some of the young dogs had been given the vaccine just before the infected dog returned and the remainder were given the first injection soon afterwards. These dogs all came down with the infection and the resulting mortality was high. One or two of the dogs which had been vaccinated some three or four months previously showed an increase in temperature and some transitory inappetence. These symptoms cleared up in three days' time and the dogs, thereafter, were

normal. Sufficient immunity was present in these one or two dogs to prevent a serious affection, but in the case of the recently vaccinated puppies the vaccine injection had not been given in time to ward off the disease. The filtrable virus of canine distemper was demonstrated in this outbreak by inoculation of suspensions of spleens from the diseased dogs into ferrets.

(*b*) Attention was brought to bear recently upon a kennel of pointers and setters where the immunisation process apparently failed to protect the animals against distemper. The disease had raged in these kennels during previous years. The owner was a trainer of bird dogs and at the height of his season he had some 300 dogs on the place for that purpose. The kennels were overcrowded, sufficient help to care for the dogs properly was not available, and sanitary conditions were not of the best.

In anticipation of a possible recurrence of distemper, the owner advised all sportsmen to have their dogs vaccinated by the Laidlaw-Dunkin method before being sent to him for training. The alternative was vaccination immediately upon arrival at the kennels. Many dogs were hurriedly given the treatment just prior to shipment and the remainder were isolated as much as possible upon arrival and given the vaccine-virus injections.

While this procedure was in operation, a large number of the dogs became ill with an intestinal disturbance. The attending veterinarian was able to trace its cause to a lot of spoiled feed and it was approximately ten days later before he had it under control. The dogs naturally became debilitated and the veterinarian reported that distemper developed. Fifty of the dogs became affected and 18 died as a result of the infection.

It was unfortunate that no opportunity was afforded for a careful laboratory examination of the diseased dogs supplemented with test animal inoculations. If true distemper existed in these kennels, there were several predisposing factors that had an influence on the outbreak.

Some of the dogs were hurriedly vaccinated prior to being sent to the kennels and were in the state of reaction to either the vaccine or virus injection during transportation when conditions are not of the best. During this time the weather was inclement. It was damp, cold, and rained continuously and heavily. These dogs were placed in isolation upon arrival but were being cared for by the same attendant who administered to the infected dogs. It was readily understood why those dogs which were vaccinated on the place, although in "isolation," became infected. It was the veterinarian's conclusion that many of the dogs were not in the proper condition for the successful administration of the vaccine. In addition to the poor conditions existing in the kennels and the preliminary debilitating, intestinal disturbance, patent worm remedies were used freely. Parasitic infestations were present, conditions which undoubtedly gravely influenced the vaccine-virus treatment.

3.—*Cases in which the apparent failures were due to distemper-like diseases.*

Laidlaw and Dunkin have definitely established that canine distemper is a single disease entity caused by a filtrable virus. The clinical picture is still a difficult one from the diagnostic standpoint. There are various infections of the dog which are evidenced by symptoms identical to those of canine distemper. Among the more important of these are bronchitis, pneumonia and gastro-enteritis.

All of these conditions have been met during the course of investigations. They have been the cause of many of the outbreaks of so-called distemper following the administration of the Laidlaw-Dunkin prophylactic. It is true that they are usually seen as complications or secondary conditions associated with distemper. They also occur independently of canine distemper and are infectious and communicable in nature. In many instances it has been impossible to demonstrate the virus of canine distemper in the spleen of affected dogs and it has been definitely and conclusively shown that the *Bacillus bronchisepticus* is an independent pathogen. It is not always and necessarily associated with the filtrable virus of canine distemper.

The dog owner should be instructed not to attribute every symptom during the life of a dog to a previous vaccination. It should be pointed out that because of keener observation following the use of vaccine and virus, every appearance of dogs being off colour in any degree is noticed by the owner. Under ordinary circumstances these would have passed unobserved; now, however, they are called reactions due to the use of vaccine and virus.

4. Cases in which the failure of immunisation was apparently due to insufficient dosage of vaccine.

The recommendations of Laidlaw and Dunkin call for one 5 c.c. dose of formolised vaccine prior to the live virus injection. This amount of vaccine is suggested for dogs of all sizes.

This has appeared unreasonable to some veterinarians and they have given two injections of the vaccine preliminary to the live virus in large, but more especially rugged, breeds of dogs. This procedure has been justified in two cases known to the writer—one a kennel of wolf hounds and the other a large kennel of fox hounds.

Instability of the Virus.

Care should be exercised in handling the powdered virus to assure its potency when injected. Although the virus is relatively unstable, it will retain its potency for approximately one month after it has been dried in vacuum over phosphorus pentoxide. Virus prepared in this manner and shipped to the Laboratories from England and afterwards tested upon ferrets has proved to be virulent after six weeks. Virus is prepared when fresh and shipped for immediate vaccination; that is, to have it reach the veterinarian in ample time to complete the vaccination process. The virus is subjected to severe potency tests before it is sent out, but its virulence cannot be controlled after it leaves the laboratories.

Causes of Apparent Failures in England.

The analysis of complaints as contained in the previously mentioned report of the British Distemper Council shows that the unfavourable results in England were due to factors similar to those just mentioned.

Reactions to the vaccine and virus were experienced and in commenting on these the report says, "In assessing the gravity of these complaints it must be remembered that the recipient of the vaccine is a variable factor, and that every dog cannot be expected to give a perfect response to vaccine even of the highest quality; and that there will be some exceptional cases of undesirably severe reactions to the virus under the best conditions."

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In some cases the inoculations apparently failed to stimulate immunity. These were cases in which an attack of distemper occurred following the completion of the immunisation. In some cases these attacks were due to other diseases clinically resembling distemper, but in others the virus was recovered from the animals and virus distemper definitely proved to exist. Other cases of failures to immunise were ascribed to ineffective virus. The distributors were able to show that some of the virus issued had become ineffective by the time it reached the veterinary practitioner. This was found to be due to the fact that there was some diminution in potency towards the end of a batch of this unstable product; also, that these failures were due to the particular preparation of virus and not to any general defect in the method.

Under the caption "other circumstances," the unfavourable results are listed as being due to various illnesses unconnected with distemper; such as "canine hysteria" and abscesses.

Conclusion.

The efficiency of the Laidlaw-Dunkin prophylactic for canine distemper has been definitely proved. There have been some failures of the treatment to stimulate a complete or solid immunity against the disease. These cases are in the extreme minority, many of which are apparent only. The fact that they have tended to occur in groups in certain sections of our country has given them undue publicity and exaggerated importance as compared to the many thousands of successes that have been obtained with the product both in this country and the British Isles.

Proposed Animal Diseases Investigation Station for Northumberland.

At a meeting of the committee of the Northumberland Agricultural Society charged with the establishment of a station in Northumberland to carry out investigations into the diseases of farm animals, over which the Right Hon. Lord Grey, chairman of the committee, presided, a report was presented showing the amount which had been collected locally. Considerably more money is required, and it was decided that a further direct appeal be made to those who should be interested. The list of subscribers up to date lacks many names which undoubtedly will be added if the urgency of the matter is put fully before them.

It was also agreed that the progress made and the future programme arranged should be placed before the Ministry of Agriculture with a view to gaining its support, which up to the present has been withheld.—*Newcastle Journal.*

Shooting a Buzzard.

For shooting a buzzard, a protected wild bird, in the wild Langdale valley, in the Lake District, Harold Thomason, a miner, of Hall Garth, Little Langdale, was fined 10s. and costs at the Ambleside Police Court. Police-Constable Blamire stated that the bird was a young bluzzard measuring 42-in. from wing tip to tip. When charged with shooting a protected wild bird, Thomason said he did not know he was doing any harm. He had lost so many chickens that he thought he was doing the right thing. He and his family had seen buzzards in the chicken pen tearing them to pieces. He saw the bird hovering over the beck after wild duck, and he followed it and shot it. He had never read the Order, but had heard the buzzard was a protected bird. The defendant was also fined 10s. and costs for using a gun without a licence.

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November 15th, 1930.

The Veterinarian and Tubercle-infected Milk.

We feel that our profession must be very much indebted to Mr. Matthews for his able and unequivocal criticism of Mr. Wood's article on "The Examination of Milk for Tubercle Bacilli." *The Analyst*, which is the Journal of the Society of Public Analysts and other Analytical Chemists, has such a wide circulation that Mr. Wood's article must have created quite a false impression about the valuable services rendered by our profession in the protection of the public from the dangers of tubercle-infected milk. That the position in this respect is so unsatisfactory to-day, does not rest with the veterinary profession, but with those Local Authorities who have not availed themselves of their powers by appointing veterinary surgeons to carry out this important branch of public health. Where Local Authorities have appointed veterinary surgeons and given them adequate facilities to deal with the problem, most satisfactory results have followed. The great and rapid increase in the number of these appointments is a very convincing argument in their favour, and it may be considered a safe prediction that, in the not very distant future, the veterinary department will be regarded as an essential unit in Local Authority administration.

If we can take press reports as being a reasonably correct purport of the remarks of speakers at the Meeting of Local Authority Councils, then it is apparent that, where they are not in possession of a veterinary staff, considerable ignorance still prevails with regard to the ability of the veterinary profession to diagnose clinical cases of bovine tuberculosis. In every governing body there always exists a certain opposition to any progressive and salutary measure, no matter how sound and beneficial it may be to the community, but when the measure is that of veterinary inspection of dairy cattle the opposition is out of all proportion to what might reasonably be expected. These obstructionists collect their material largely from articles and papers by laymen on subjects dealing with bovine tuberculosis, and not only in

our own defence but in the common interest it is well that these misinformed and misleading statements should be vigorously denounced. In this respect Mr. Matthews has rendered us a great service and we trust that his reply to Mr. Wood will receive publication in *The Analyst*. Mr. Wood is to be congratulated on his courage in publishing his article, but we cannot help feeling that had his knowledge of the subject been greater, his conclusions might have been different. We, in the veterinary profession, must feel indebted to him for supplying us with such a convincing argument for the veterinary inspection of milch cattle. It has long been the conviction of veterinarians in the public health service that any system of bulk sampling for the detection of udder tuberculosis is a most expensive, inadequate and primitive method of tinkering with the problem. Mr. Wood has given us a valuable contribution in confirmation of this assertion.

At one time the microscopical examination of milk from a tuberculous udder for tubercle bacilli, except in the very worst cases, was looked upon as practically a waste of time, the chance of success being so small. Within recent years, however, it has been established beyond all doubt that the microscopical examination of milk from a tuberculous quarter is a most valuable aid to diagnosis. The cytological picture is highly characteristic and is a certain guide as to whether any acid-fast bacilli present are tubercle bacilli or not. No doubt exists in the mind of the initiated.

It would be a most serious retrograde step if the impression given in Mr. Wood's article was accepted, to the effect that the microscopic examination of milk is a very unsatisfactory means of diagnosing tuberculous mastitis, and that in some cases tubercle bacilli cannot be distinguished from other acid-fast bacilli occurring in milk. To hold such views is to have the mental outlook of several years ago, and to ignore the accepted results of recent observations on this important work.

Professor Share-Jones and Agriculture.

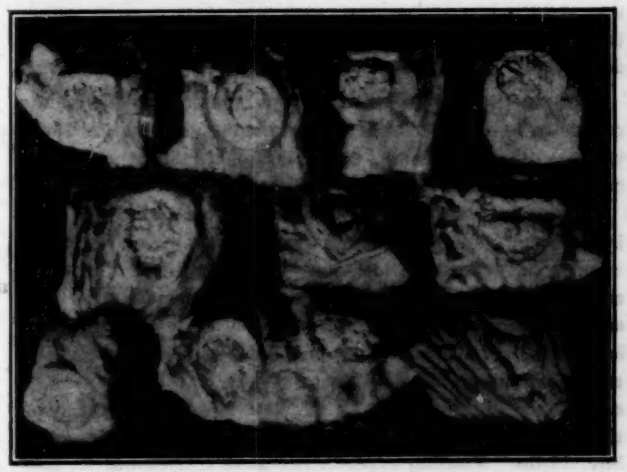
An amendment that animal husbandry be included in the Liberal programme for agriculture, proposed by Professor Share-Jones at the recent Liberal Federation Conference at Torquay, was unanimously carried "Thus, for the first time, the food-producing animal becomes a subject of political controversy," comments the *Liverpool Daily Post*.

Clinical and Case Reports.

Tuberculous Ulcerations of the Small Bowel in the Bovine.*

By J. Howard Jones, O.B.E., M.R.C.V.S., Chief County Veterinary Inspector, Glamorgan.

I enclose for reproduction, if thought fit, a photograph of tuberculous ulcerations of the small bowel exhibited at the recent meeting of the Mid-West and South Wales Division.



I do not recollect having seen recorded the occurrence of such tuberculous ulcerations, and it would greatly interest me if others who have met with similar lesions will state their experiences.

These specimens were present, together with many more, in the small bowel (jejunum for the greater part) of two cows, very badly affected with old-standing tuberculosis. The centre or cavity of most of the ulcers contained a semi-solid, yellow substance, consisting occasionally of a percentage of calcified material, all of which was unfortunately lost in a slaughterman's efforts to please me by cleaning the specimens.

* Exhibited to the Mid-West and South Wales Division, N.V.M.A., at Bridgend, Glamorgan, on October 17th, 1930.

Enzootic Spinal Paralysis of the Horse.†

By J. Adamson, Junr., Royal Veterinary College, London.

Subjects.—Four artillery horses.

Introduction.—An outbreak of disease resembling in its clinical manifestations enzootic spinal paralysis occurred in a stud of about forty horses kept for Territorial purposes, shortly after their return from the summer camps. In all, four animals were affected.

Symptoms and Course.—The symptoms were as described in the following notes. There was a loss of power in the

† Case presented for award under the N.V.M.A. Clinical Prize Scheme for Students, 1929.

hind quarters, with unsteady stumbling gait, and while in the stalls the animals leaned on the heel posts for support. Paralysis of the bladder and partial paralysis of the rectum were constant features of all the cases.

The first case was in a bay mare, aged nine years. The onset of paralysis was sudden, and all four limbs were equally affected. With difficulty she was removed to a horse box, where she went down. A hypodermic injection of two grains of eserine sulphate was given, and slight purgation took place during the next hour. No food was allowed, although the mare seemed anxious to eat, but she was given plenty of water. The following day paralysis of the rectum and bladder was evident and these had to be evacuated. The mare was unable to rise, although she had recovered the use of her fore limbs and could sit up. A little hay and a bran mash was allowed. The condition became progressively worse and the animal was destroyed.

Post-mortem.—This showed the mesenteric lymphatic glands to be enlarged and hæmorrhagic; petechial hæmorrhages on the peritoneum; congestion of the brain with some hæmorrhage.

The second case, in a seven-year-old mare, and the third in an aged gelding, appeared simultaneously, and were of about equal severity. Both showed inco-ordination of movement of the hind limbs and paralysis of the bladder. Blood samples were taken when the cases were recovering from bacteriological examination, but they were sterile. The treatment and prophylaxis consisted in a complete change of diet for all the horses. The horses were being fed on the following: oats, 3 lbs., barley meal, 1 lb, and Canadian hay, 10 lbs. Feeding experiments were carried out on four rabbits without any ill effects. The treatment adopted was the administration of five drachms of aloes, followed by twice daily half drachm doses of potassium iodine. Improvement was slow, but after three weeks they were both walking quite well. The only after-effect was emaciation.

The last case, in an aged mare, was a very mild one and occurred seven days after the diet had been changed. This animal only suffered from a temporary inco-ordination of movements in the hind limb. Recovery was rapid and complete.

Remarks.—The similarity between the clinical features of this outbreak and the clinical symptoms of enzootic spinal paralysis is of considerable interest. The latter disease has not been reported in the British Isles, as far as the writer is aware. The unsatisfactory point is that the presence of the specific organ has not been demonstrated in cultures; unfortunately the blood only was used for this purpose.

Reference.—Hutyra and Marek's "Special Pathology and Therapeutics of the Diseases of Domestic Animals," Vol. III, p. 420.

"Scrub" Bull Legislation.

A letter from the Department of Agriculture for Scotland to the Highland and Agriculture Society intimates that legislation is being prepared to eliminate inferior types of bulls by a system of licensing.

Such licensing systems are already in force in both Northern Ireland and the Irish Free State.

Paraphimosis in a Dog.*

By J. L. Buckingham, Royal Veterinary College, London.

Subject.—Wire-haired Fox terrier dog.

History.—The dog was at liberty the previous night and on returning home in the morning it was observed that the penis was protruding from the prepuce.

Symptoms.—On examination it was found that the glans, which was protruding from the prepuce, was swollen and of a livid hue.

Treatment.—Pressure was applied to the swollen glans, but no appreciable diminution in size could be brought about, neither could the prepuce be drawn over it.

It was therefore lanced on its dorsal aspect, when a large quantity of dark venous blood escaped.

It was now comparatively simple to replace the penis within the prepuce after having anointed it with zinc ointment.

The orifice of the prepuce was sutured in order to prevent erection of the penis.

Zinc ointment was left, with instructions that it should be applied twice daily.

Three days later the sutures were removed and the penis was seen to be practically normal, though slightly swollen.

Zinc ointment was again left to be applied twice daily.

The dog was next seen in another six days' time, when it was perfectly normal.

It is probable that during the night, when the dog was at liberty, he had had an unsuccessful attempt at coitus with a large bitch and had bruised his penis against the buttocks of the bitch.

Enforcement of Rabies Regulations.

The following recent prosecutions for failure to observe the requirements of the Importation of Dogs and Cats Order of 1928 should serve as a warning to any who selfishly seek to evade the quarantine regulations applying to dogs and cats entering this country from abroad.

In one case a dog which had been carried on a sailing yacht was landed illegally in Essex by the owner and taken to London. Proceedings were instituted by the Local Authority and the owner was fined £30 with £4 10s. costs. In the other case, an attempt was made at Tilbury to smuggle a dog which was concealed in a coat. As a result of proceedings, the owner was fined £7 10s. with costs and his companion was fined a like sum for aiding and abetting.

The Order prohibits the landing of a dog or cat from abroad without a licence from the Ministry of Agriculture, the principal condition of the licence being the isolation of the dog at an approved veterinary establishment for six months from the date of landing.

These regulations seem drastic, but they are necessary to prevent the risk of the introduction from abroad of rabies, from which this country has happily been free for some years. In recent years no fewer than ten cases of rabies have occurred in imported dogs during the period of quarantine.—*Ministry of Agriculture.*

* Case presented for award under the N.V.M.A. Clinical Prize Scheme for Students, 1929.

Eleventh International Veterinary Congress, London,

AUGUST, 1930.

Abridged Papers.

Dog Distemper: Ætiology and Vaccination.

By G. W. Dunkin, M.R.C.V.S., D.V.H.

Veterinary Superintendent, Medical Research Council, Field Research Laboratories, Mill Hill, London.

Ætiology: The author describes in some detail the various theories which have been propounded regarding the cause of distemper, listing the organisms which have from time to time been regarded as the cause of the condition. Included in this list one finds *B. bronchisepticus*, and the filterable virus of Carré. Of the more recent work referred to is that of Green, who in 1925 published the result of some observations he had made in silver foxes. In the first instance he isolated a pasteurella organism and subsequent to that found a similar organism in dogs. "More recently, however, he has secured evidence of the existence of a filterable virus as the cause of the disease in foxes, and it would appear that Green now recognises two separate diseases."

It is stated that there is some evidence that the filterable virus isolated by Green is not identical with that which Carré, Laidlaw and Dunkin and others regard as the cause of dog distemper, and Green has informed the author in a private communication that he was unable to produce infection in ferrets with the virus even though some two hundred times the dose usually given to foxes was used, but foxes developed a typical disease when injected at the same time.

Vaccination: Considerable detail is given to vaccination and a more or less complete history of events in this connection is recorded from 1900 to the present day. The majority of the author's remarks under this heading are confined to a description of the vaccine-virus method of immunization which has now been in vogue for some two years in this and other countries. A discussion is given which is really a résumé of occurrences. Accidents and breakdowns are discussed and analysed.

Under the heading "Breakdown in Immunity" the author discusses the causes and places them under two headings (1) Individual susceptibility occurring in animals which, under ordinary conditions, would have some difficulty in acquiring a lasting immunity even after a naturally acquired and severe attack, and (2) the administration of virus which was, at the time of injection, impotent.

The author states, with reference to (1) that "it will probably be agreed by everyone that although the majority of dogs which develop and recover from distemper derive therefrom a lifelong immunity to further attacks, there are a few who appear to have acquired no such resistance and are subject to further attacks. In the light of this accepted clinical experience it seems fair to assume that a similar state of affairs may arise as a result of vaccination."

A brief note referring to the probable value of hyper-immune serum suggests that a further and possibly more complete statement concerning this phase of the subject will be forthcoming shortly.

Summarising the paper, the author refers to the success obtained by Puntoni with his "brain" vaccine, of Lebailly's "spleen" vaccine, and that used by Laidlaw and Dunkin.

Distemper: Ætiology and Vaccination.

By Professor Dr. H. Carré.

Directeur-Adjoint du Laboratoire National de Recherches, Alfort (Seine), France.

Distemper has claimed the attention of clinicians for many years, and from the clinical standpoint there have been many attempts to identify it with other diseases of animals and man. It has, for example, been compared with typhoid fever and measles in man and with strangles and glanders in the horse.

Many organisms have been incriminated as causative agents, *e.g.*, *B. bronchisepticus* (Ferry, McGowan and Torry), Negri-like bodies in the brain and bronchial mucosa (Sinigaglia) and spirochætes (Marchand and Petit).

The author, in 1905, succeeded in showing that the nasal discharge, taken at an early stage of the disease, was able, after filtration, to reproduce the malady, on injection into a healthy dog. Further, blood taken from an artificially infected animal at the height of the infection again produced distemper when introduced into a fresh dog. This work was confirmed by Lignières (1906) and Eyguene (1912), but was refuted by Kregenow (1909). However, the methods employed by this last worker were not such as would allow of a filter passer being discovered.

The author demonstrated that the subcutaneous injection of a recently-isolated strain of *B. bronchisepticus* produced no ill effect; the fact that it is filtrable as stated by Ferry is, therefore, of no importance.

It is admitted that many germs are capable of reproducing, on injection into a dog, a disease simulating distemper, with septicæmic pulmonary or intestinal lesions. However, they cannot set up true distemper, *i.e.*, a disease of a highly contagious character with virulent discharges and infective blood.

Dunkin and Laidlaw (1926), whose methods of investigation should serve as a model for the study of many diseases, were able to confirm that a filter-passing virus was the cause of distemper. They succeeded in demonstrating this filtrability only by the use of infected ferret spleen.

Vaccination.—Attempts to produce immunity have been many. Trasbot (1875) used cow-pox lymph, Lignières and Physalix (1903) employed attenuated cultures of a pasteurella and Ferry (1903) made use of *B. bronchisepticus*. The author inoculated 65 dogs with an unattenuated broth culture of this last germ. No reaction of any kind appeared. A considerable number of these animals later succumbed to true distemper, some with pulmonary, others with nervous, complications.

Puntoni (1923 and 1924) produced an efficacious vaccine by "formalinising" the brain of an infected dog and

Lebailly (1927) was able to prepare a satisfactory antigen by subjecting spleen tissue to the action of formalin. Laidlaw and Dunkin, modifying Lebailly's method, were able to prepare an efficacious antigen, but considered that the immunity produced by this vaccine alone was insufficient and that it must be augmented by the inoculation, eight days later, of a small quantity of living virus. Their results have been most satisfactory. The maintenance of the virus in the living state in transport constitutes a very real difficulty, but this is not insuperable.

Up to the present, only one virus has been demonstrated; if it is shewn that more than one exists, a very difficult complication will be added to the obtaining of a vaccine.

J. H. M.

The Ætiology and Vaccination against Distemper.

By Professor Dr. Hinz.
Direktor der Klinik für kleine Haustiere der Tierärztlichen Hochschule, Berlin.

From the clinical standpoint, the following are considered to be typical symptoms of distemper—mucous or purulent discharge from eyes and cloudiness or ulceration of cornea; watery or purulent nasal discharge and cough (pulmonary affection); inappetence and diarrhœa (intestinal affection); nervous symptoms; the general accompaniments of a febrile disease. It is not essential that all these symptoms be present or that they appear in the given order, but the appearance of one or more in a young dog would indicate distemper.

The author considers that bacteriologically the positive demonstration of a single causative organism has not been given, and further, one cannot by the use of a bacterial or filtrable causative organism reproduce one definite and repeatable disease picture.

There are a number of other diseases, some symptoms of which are the same as those found in distemper. Disease of one or more organs, *e.g.*, bronchitis or bronchopneumonia and canine typhus in the early stages before the appearance of ulcers, may be mistaken for distemper. It is further very difficult to reconcile the mild catarrhal form of distemper (as produced by a virus) and described by Laidlaw and Dunkin, with the virulent form of the disease. It is suggested that the virus paves the way for secondary invaders which bring about the severe symptoms. There is the possibility that Carlin's infectious angina tonsillaris corresponds to the mild Laidlaw-Dunkin type of distemper. Infestation with parasites may bring about symptoms indistinguishable from those associated with distemper, *e.g.*, ascarides or their embryos have been responsible for catarrhal inflammation of the bowel and for pneumonia. Further, avitaminosis, faulty nutrition, or deficiency of such as sodium or phosphorus must be reckoned with. It has been said that these deficiencies can bring about any distemper symptom, but it is more probable that they so lower resistance that secondary invaders are able to gain a foothold more easily. That the question of suitable nourishment does play a large part is supported by the fact that in the Berlin Veterinary High School, in 1919 and 1920 (while food conditions were bad), 23 per cent. and 28 per cent. of all the dogs admitted were treated for distemper, this percentage falling to 3·4 per cent. in 1929 when the food conditions had returned to normal. From the foregoing it will seem that it must be left to the clinician to decide from symptoms, history, etc., whether the particular case on hand is or is not or was originally, distemper.

The practitioner has a very difficult problem in deciding whether he is or is not dealing with a case of distemper. He requires assistance to deal with the virulent time as met with in the field; a knowledge of how to combat the secondary invaders is required.

The inoculation treatment or prevention of distemper depends upon the views of the worker, as to whether the cause is of a bacterial or virus nature. This is exemplified by the many different methods recommended in the literature. If there had been a perfectly satisfactory method it would have been adopted very generally. The failure of the inoculation methods recommended is not surprising in view of what has already been said *re* the distemper problem, and up to the present there has been no one method which can succeed. An absolutely certain differential diagnosis is of supreme importance in the evaluation of any treatment of distemper.

A true solution to the distemper problem is not to be expected from the bacteriologist alone; the help of such workers as clinicians, parasitologists and nutritional physiologists must be sought. The formation of an international distemper research committee is to be recommended for the thrashing out of the problem.

J. H M.

Abstracts.

[**French Veterinary Academy.** *Bulletin de L'Academie Vétérinaire de France.*]

At a meeting of the Veterinary Academy of France in July last the President paid a graceful tribute to the late Professor Newman, who died on June 28th, in the 84th year of his age.

Qualifying from Alfort in 1868, he joined the Army Veterinary Corps, but in 1879 returned to Alfort and occupied the chair of Natural History and of Materia Medica. Professor Newman was a voluminous writer, but he is best known to English veterinary surgeons through his great work "Parasitic Diseases of the Domesticated Animals." Newman, though somewhat severe as a teacher, knew how to inspire affection and respect in his pupils.

At the same meeting of the Academy reference was made to a communication on the rôle of *Brucella melitensis* var *abortus* in the etiology of undulant fever of man, which drew the attention of medical men to the fact that contamination of bovine origin—subjects of epizootic abortion—is capable of setting up the malady.

At the same session a paper was contributed by two Greek veterinary surgeons on accidents resulting to horses after vaccination against anthrax. The vaccine used was that of Pasteur, first and second. In 1925, some cases of anthrax having occurred among horses of a regiment of artillery in Athens, 250 horses were injected subcutaneously with the first vaccine, when nothing abnormal was observed, and after twelve days the animals received the second vaccine also subcutaneously. Four days later, twenty of the vaccinated horses showed some

local reactions at the seat of inoculation and general symptoms of an alarming nature. Eighteen of the affected horses died in from four to eight days after the appearance of symptoms.

In January, 1930, in consequence of the occurrence of four cases of anthrax among horses of the Athens Garrison, the anti-anthrax vaccination of all the horses of the garrison was undertaken and the 800 animals were inoculated with the first and second vaccines at an interval of twelve days.

From three to eight days after receiving the second vaccine four of the horses showed grave symptoms and died after a few days' illness.

Symptoms.—Local symptoms without gravity. General symptoms—great dullness, head held low, complete inappetence, respiration slowed, pulse weak, temperature about normal. Profuse diarrhœa was present and persisted to the end. Urine was scanty in quantity and in some cases hæmorrhagic. Œdema of the limbs was observed. The four affected horses died from four to seven days after becoming ill. *Post-mortem.*—Apart from some sero-sanguineous fluid in the abdomen and some congestion of the large intestine the only lesion of note was found in the kidneys, which were greatly enlarged and covered by a gelatinous hæmorrhagic material.

Although microscopic cultural and inoculation research was undertaken, the anthrax bacillus could not be demonstrated.

The authors of the communication express the opinion that the malady was a toxæmia produced by toxins formed by the second vaccine; this explanation, however, is not admitted by Professor Vallée, by whom the paper was presented to the academy.

Two communications of much interest were also discussed at the session, the subject being Hæmoglobinuria, an affection which was designated by one member as the opprobrium of the veterinarian.

It was recognised that the etiology of the disease was unknown. While it was admitted that patients were usually animals in good condition, of heavy type, and which in cold weather had rested in the stable for a day or two, receiving meanwhile abundant food and which were attacked a few hours after having been put to work, cases were quoted to show that the above conditions may be absent in many instances and that it was not uncommon to meet with the malady in thin horses, in those of light type and in those which had regular work and exercise, and during the warm months.

There was difference of opinion as to the constancy of lesions of the psoas muscles, though it was agreed that the disease process was essentially of muscle origin.

With regard to treatment, it was pointed out that the important indication is to stop at once on the first signs of flagging or lameness, and to put the animal in a neighbouring stable or have it removed in a conveyance to its own. Anodyne treatment is to be adopted. The intravenous injection of potassium permanganate, recently recommended, was viewed with scepticism. Bleeding, so often practised in France for the disease, was condemned, as were stimulating limiments.

Preventive measures consist in restricted and regular exercise while resting in the stable.

W. R. D.

N.V.M.A. Divisional Report.

Mid-West and South Wales Division.

Double Intradermal Tuberculin-test Demonstration at Bridgend.

Local difficulties concerning the interpretation of the results of the double intradermal tuberculin test, which were nevertheless of much more than divisional interest and significance, led the Council of the Mid-West and South Wales Division to address invitations to every veterinarian resident in the nine counties comprising the Society for the meeting, at which the subject was to be considered, on Friday, October 17th, 1930. The resultant attendance of nearly 40 practitioners at Bridgend testified to the value and success of the efforts made by Mr. Howard Jones to comply with the request of the Glamorgan County Council and the Welsh Ministry of Health that a demonstration of the test should be arranged. Accordingly, Mr. R. E. Glover, of the Institute of Animal Pathology, Cambridge, had journeyed for cattle inoculation purposes to South Wales on the Tuesday preceding the meeting, and when the company assembled at the Dunraven Hotel, Bridgend, four selected reactors and two non-reactors were awaiting their inspection at the Mental Hospital Farm.

In conjunction with his prefatory paper on "The Principles of Double Intradermal Tuberculin Testing," Mr. Glover's demonstration was a convincing exposition both of the ease and certainty of interpretations of the test at the hands of those who have familiarised themselves with its technique (with particular regard to the nature of the non-reacting swelling) and of the reason for its supersession of the subcutaneous test in graded herds, in view of the fact that reaction sensitivity is seriously reduced by extended repetition of the latter method.

The President (Mr. W. R. Watson) occupied the chair at the meeting which preceded the demonstration, and there were also present Captain G. S. Atkinson, Captain J. R. Barker, Messrs. E. C. Bovett, G. S. Bruce, A. J. Cattell, J. C. Coleman, Mr. W. T. Edwards, Captain A. F. Good, Mr. R. W. Hall, Major G. E. Henson, Mr. F. C. Hobbs, Captain J. Howard Jones, Major E. S. James, Captain T. H. Jones, Mr. R. Moore, Mr. J. S. Pike, Captain J. C. S. Powell, Messrs. C. J. Pugh, D. E. Pugh, J. F. Rees, W. D. Rees, H. S. Robinson, B. Sayer, E. Sayer, Captain J. H. Stewart, Messrs. T. R. Thomas, C. D. Watkins, M. E. Williams, Captain W. R. Williams and Mr. C. E. Perry (Hon. Secretary), together with the following visitors: Capt. D. G. Davies, Mr. C. H. Ducksbury, Mr. R. E. Glover, Captain J. C. Hill, Mr. A. M. McClew, Mr. H. W. Steele-Bodger, Mr. G. H. Thomas, Mr. F. J. Tucker, and Dr. T. W. Wade, of the Welsh Board of Health.

The minutes of the previous quarterly meeting of the Division, which had been published in the *Veterinary Record*, were taken as read and were confirmed and signed, on the proposition of Mr. Coleman, seconded by Mr. Rees (W. D.).

Correspondence.

(1) From Mr. A. E. Adams, Captain J. J. Aveston, Messrs. J. L. Brain, T. J. Brain, D. Buchanan,

P. J. Wallace and J. L. Perry, apologising for their inability to attend the meeting.

(2) From the National Horse Association of Great Britain and Ireland, requesting a renewal of the Society's subscription. The Secretary informed the meeting that they had been in the habit of subscribing £1 1s. per annum towards the funds of that Association, and a continuance of the subscription was agreed to.

(3) From the Welsh Board of Health relative to the double intradermal testing of cattle for tuberculosis. The Secretary merely reported the receipt of these items of correspondence, adding that it was as a result of them that that meeting was being held at Bridgend that day.

(4) From Sir Merrik Burrell, as Chairman of the Board of Governors of the Royal Veterinary College, London (addressed to the Lord Mayor of Bristol and placed before the meeting by Major Henson), seeking a contribution from the Corporation of Bristol towards the Royal Veterinary College Re-building Fund.

After discussion it was moved by Mr. W. D. Rees, seconded by Captain Howard Jones, and carried unanimously "That a recommendation be sent through Major Henson that this meeting supports the appeal made by the Chairman of the Board of Governors of the Royal Veterinary College to the Corporation of Bristol for a subscription towards the Re-building Fund."

(5) From the Secretary of the N.V.M.A. conveying a suggestion from the Organising Committee of the Association that the Division should appoint a committee of three members willing to use their personal endeavours, either singly or collectively, to induce non-members of the Association to join.

The Hon. Secretary observed that a large percentage of the members of the Division were also members of the N.V.M.A., and that therefore, in his view, it was unnecessary to appoint a Committee.

Mr. W. D. Rees said that they had to bear in mind that the National Association was the executive body of the profession to-day; it was very active on behalf of the interests of the members of the profession and he thought it only right that every member should belong to it. (Hear, hear.)

Mr. M. E. Williams proposed that a circular letter, signed by the Secretary of the Division, be sent to every non-member of the N.V.M.A. within the area of the Division, enclosing an Association nomination form and urging membership.

Mr. W. D. Rees seconded the proposition, which was carried unanimously.

(6) From the Secretary of the N.V.M.A., informing the Division that the Editorial Committee had refused to insert in the *Veterinary Record* an advertisement from the Glamorgan Agricultural Committee for an Instructor in Veterinary Science at a salary below the recognised scale for such appointments, but that, following upon representations made by the Association, the salary offered had been raised and the advertisement accepted for insertion. This communication was received with applause.

(7) From the Secretary of the N.V.M.A., informing the Hon. Secretary that he had been appointed to the Finance Committee of the Association.

Mr. Perry said that he regarded his appointment as an honour to the Division, and he would do his best to attend the meetings of the committee as regularly as possible.

(8) From the Editorial Representative of the N.V.M.A., stating that it had been decided by the Editorial Committee that, in view of the fact that the proceedings of the International Veterinary Congress were being dealt with as a feature of the *Record*, that reports presented to Divisions by delegates, which would inevitably be largely of a repetitive nature, should not be published.

(9) From the Secretary of the N.V.M.A. intimating that, as a result of alterations recently made in the Association's Articles, Divisional representation on the Council would in future be the Hon. Secretary (if any) and one representative for every 35 members or portion thereof.

The Hon. Secretary observed that the alterations thus made would not affect their representation upon the Council of the N.V.M.A., inasmuch as, with a membership of 70, they would still have two representatives in addition to himself.

(10) From the Secretary of the N.V.M.A. enclosing, for the information of the Committee suggested in (5), a list of specific recent instances in which the Association had been successful in representations made in the interests of members of the profession, with particular reference to appointments.

The list was read by the Hon. Secretary who added, amid applause, that such successful activities were worthy of their gratitude and full support, and furnished convincing proof, if any were needed, of the value of the N.V.M.A. and of the desirability of every member of the profession joining that body.

Council Meeting Reports.

The Hon. Secretary now said that he desired to make a report of a Council meeting of the Division held on May 23rd. At that meeting Mr. W. Scott gave notice of the following resolution:—

"That this Division is of opinion that the time has arrived when legislative measures should be introduced, making it illegal for any person or persons other than duly qualified veterinary surgeons to administer *active* biological products to animals."

The resolution was brought forward at the last meeting of the Division, held at Bridgwater, when it was adopted and he (Mr. Perry) was instructed to send it to the R.C.V.S. and the N.V.M.A.

The Secretary of the R.C.V.S. had replied, stating that he had submitted the resolution to the Parliamentary Committee, and was instructed to inform the Division that, while the Council of the R.C.V.S. were in entire agreement and sympathy with the resolution, they saw no prospect of any suitable legislation being carried in this country within a reasonable time.

A reply had been received from the Secretary of the N.V.M.A., stating that the Council had considered the resolution and had referred it to the Parliamentary Committee of the Association for consideration and report.

The Hon. Secretary proceeded to report upon a meeting of the Council of the Division held on August 23rd, when a letter was read from the Welsh Board of Health alleging that the double intradermal tuberculin test was being carried out in an unsatisfactory manner by some practitioners and suggesting that a demonstration should be held at some centre in South Wales. As a result, it was agreed to ask Professor Buxton, or a member of the staff

of his institute, to give demonstration tests at an early date, and the arrangements for a meeting near Cardiff were left in the hands of Mr. Howard Jones, who was kind enough to undertake them. He (the Hon. Secretary) had invited every member of the profession in the nine counties comprising their Division to be present that day, at the resultant meeting.

Reports of Delegates.

Royal Sanitary Institute Congress.—The President now called upon Mr. J. C. Coleman to present his report in his capacity as the Division's delegate to the Congress of the Royal Sanitary Institute. The report was as follows:—

"I beg to submit a report, the result of my attendance at the Congress of the Royal Sanitary Institute held at Margate from June 21st-28th, which I had the honour of attending as your delegate.

The sections were well attended—I believe a record—and the social functions provided were much enjoyed.

On Tuesday evening Dr. O. Charnock Bradley delivered a lecture to the Congress entitled 'Diseases of Domestic Animals from the Human Angle.' This was a masterpiece of oratory and most interesting to all the sections attending. It was the first time that a member of our profession has been called upon to deliver *The Congress Lecture.*

I propose to include in this report the most salient points touched upon, of especial interest to us as a profession.

Dr. Bradley considered that at the present Congress, diseases of animals should be regarded mainly, if not almost entirely, from the point of view of the Sanitarian, for as to how far animal diseases affect the health and well-being of the people is of surpassing importance.

He quoted many instances of progress in Public Health administration and pointed out that it was not until 1847 that the first regular appointment of a Medical Officer of Health was made, and that this honour belongs to Liverpool.

Section xxvi of the Public Health (Scotland) Act, 1867, elicited comment from Thomas Goodall Nasmyth, who was the first to point out what is now regarded as obvious. He says: 'This section is one of the most important in the Act . . . . The knowledge of the subject which he (the sanitary inspector) possesses should not alone be confined to the various articles mentioned; he should also know what diseases of animals render the flesh unfit for food, and what are the physical signs in the living animal by which he could form an opinion as to the nature of such diseases. Here the functions of the veterinary surgeon are infringed upon, and it is highly desirable that every fully equipped sanitary authority should have available the services of a consulting veterinary surgeon.'

Fortunately, the desirable co-operation indicated in these words has been effected in many places; but unhappily there are authorities who do not entrust the inspection of meat to those who, by their special training, may reasonably be regarded as best to carry it out.

Natural as it may be for a Sanitary Congress to consider animal disease from the view of its transmissibility to man, there is, however, a much wider human angle of importance and this contains lesser angles, of which the sanitarian is only one. For example, the economist asks: How much does animal disease cost the country every year? Is the cost increasing or decreasing? What measures are being taken to effect control or diminution of the cost? The expert in nutrition might reasonably contend that the flesh and milk of an animal not in perfect health, declines in a greater or less degree from the highest point of nutritive value.

Great losses are sustained by condemnation of meat as unfit for human food. In 1928 more than 2,000 tons of meat were condemned at Smithfield, Islington, Manchester, Birmingham and Edinburgh.

Many diseases of animals may be transmitted to man, but that which receives most attention from the public is tuberculosis; a disease which, in view of the toll it takes of human life, should be controllable.

Reference was made to the Brucella group of organisms. From a bacteriologist's point of view, undulant fever of man and abortus disease of cattle, sheep and pigs are caused by organisms of this group, and he is led to the conclusion that they may be the same organism modified by passage through different hosts.

There seems little doubt in the minds of observers that the spread of undulant fever in man is concomitant with the invasion of new areas by Brucella infection of animals. The infection is believed to be carried from animals to man, in the case of the cow and goat, by the medium of their milk.

Of especial interest was Alderman W. Phené Neal's opening of the discussion on Mr. Rabagliati's paper.

He commented upon the good work done by our profession, in which he took a keen interest, and the list of important diseases dealt with by the Ministry of Agriculture through its veterinary staff and also veterinary officers of local authorities.

It came as a great surprise to him, however, to hear that although the Ministry of Health make regulations, etc., for dealing with milk and milk products, and under Meat Regulations with regard to diseased meat, there is not one member of the veterinary profession to advise the Minister of Health on questions of animal health and disease. He considered that the utmost advantage should be taken of the trained and experienced veterinary officer in such matters.

He advocated the use of public abattoirs only, and informed us that the City was the first Local Authority to observe caseous lymphadenitis, and that during 1929 approximately 13,000 imported cases were destroyed as unfit for human food.

At Islington I believe that over 50 per cent. of the cows slaughtered there contain lesions of tuberculosis.

Some very interesting work has been done in typing the different bacilli contained in the tuberculous lymphatic glands in the heads of pig carcasses, with the following results:—

63	per cent.	of lesions	were	caused by the	Bovine type.
33	,,	,,	,,	,,	Avian ,,
1	,,	,,	,,	,,	Human ,,

In his opinion, the Tuberculosis Order of 1925 does not really do anything towards eradication of the disease, though getting rid of the worst clinical cases of tuberculosis.

An attempt at eradication would, it is said, lead to trade disorganisation, but in his opinion, this was a weak

argument, and the sooner eradication of the disease was attempted the better.

The average percentage of milks infected with tuberculosis was said to be 7·6 in the years 1920 to 1929. The Tuberculosis Order has apparently had no effect in reducing this percentage. These figures apply to Birmingham.

A very interesting paper entitled the " Essentials of Milk Distribution " was presented by Mr. G. G. Culmer, of Faversham, and a good discussion followed.

Your delegate's contribution was somewhat as follows :—

After complimenting the author on the excellence of his paper, he added that it was doubtless due to his (the author's) modesty that he had made no mention of disease caused by a contaminated milk supply. He referred particularly to tuberculosis and he would like to submit a few figures to the Section, culled from a recent publication. Firstly, the laboratory experiments of Park and Krumevide and Fraser, demonstrated that about one-third of the non-pulmonary cases of tuberculosis in children under 16 years of age were due to a bovine type of tubercle bacillus.

Further, in 1918 there were 58,673 deaths from tuberculosis in England and Wales and 3,382 of this number were said to be of bovine origin.

In 1927 the total deaths were 38,173 and of these 1,945 were attributed to the bovine tubercle bacillus.

It was satisfactory to note the decrease in the number of deaths in that period. Was that due to greater care in milk production, better inspection, etc., or was it due to pasteurisation? Statistics for this period, showing whether child deaths from " deficiency diseases " have correspondingly increased through the use of pasteurised milk, would be extremely interesting.

It is certainly not due to the incidence of diminution of tuberculosis in the cows, as, upon testing with tuberculin, 50 per cent. or more, in many parts of the country, react to the test."

Eleventh International Veterinary Congress.—Reports as delegates of the Division to this Congress were presented by the President and the Hon. Secretary.

The delegates to both Congresses were accorded a hearty vote of thanks for their attendance and reports.

Post-Mortem Specimens.

Mr. Coleman exhibited a specimen of a double intussusception of the bowel in a foxhound puppy. In doing so, the exhibitor described the case as a unique one in his experience. On Monday it was obviously rather ill, refusing food, moping about, and with the visible mucous membranes very pallid, but with a tinge of yellow in that of the eye.

On Tuesday it was much worse, and the membranes had become very yellow. He gave an injection of leptospiral serum, but it did no good and the dog died in the night.

On *post-mortem* examination he found two intussusceptions of the bowel, two feet apart. He would like to ask if anyone else had seen two intussusceptions in the same dog.

Mr. Howard Jones exhibited specimens showing tuberculous ulcerations of the small bowel in the bovine. [These cases are recorded and illustrated in our clinical section this week.—Ed.]

Double Intradermal Tuberculin Testing.

Mr. R. E. Glover, B.Sc., M.R.C.V.S., of the Institute of Animal Pathology, University of Cambridge, gave a short explanation of the technique and the interpretation of the double intradermal test (the substance of his talk appeared in a recent issue of the *Veterinary Record* X 37, p. 859). He prefaced his remarks on the interpretation of the reactions by a reference to certain points in the method of making the inoculations, and strongly urged the members to adhere to the procedure recommended by the Tuberculin Committee of the Medical Research Council in their reports. He deprecated the use of a very short needle (0·5 cm. or less in length) which apparently has found favour with many practitioners, pointing out that the thickness of a double fold of the skin varies from 3 mm. in the calf up to 18 mm. in the bull. The short needle, said Mr. Glover, makes no allowances for this difference in thickness of the skin, and it is therefore difficult to be certain that the tuberculin reaches the deeper parts of the derma. There is also a grave suspicion that, with these short needles, some of the tuberculin may escape: the same objection applies to curved needles.

Referring to certain suggested modifications of the test, he advised members to refrain from using the subcaudal fold. In the caudal fold the skin is extremely thin and it is difficult to avoid injecting the tuberculin into the subcutaneous tissue which separates the two layers of the skin. The subpalpebral method is also open to the same drawback.

Concluding his remarks, Mr. Glover said that they were going to show the members a few demonstration animals. He desired to express his deep appreciation of those who had co-operated in arranging for the demonstration: they were very specially indebted to Mr. Howard-Jones, who had been to no small trouble to make the demonstration a success, and who had been entirely responsible for the arrangements which had been made. He also desired to put on record their appreciation of the courtesy of those who had placed the Angelton Mental Hospital Farm herd at their disposal. They had selected some of the animals and had inoculated them on the left side of the neck with concentrated glycerine broth, and on the right side of the neck with tuberculin; while in others the two inoculations had been made side by side, the glycerine broth nearer the head. He had selected six animals: two were non-reactors and four were reactors; he had chosen the latter because they showed the slightly diffuse swelling. He was particularly desirous, however, that they should fix in their minds the nature of the non-reacting swelling.

The President said that they were all very much indebted to Mr. Glover for his very illuminating and, as the latter had phrased it, incisive talk. (Applause.) They had had a splendid address on the double intradermal tuberculin test and he thought it would be as well if they kept their questions until a return was made from viewing the interesting demonstration which was in store for them.

Mr. Coleman said that, with the President's permission, he desired to request Mr. Glover to clear up two points. Did he misunderstand Mr. Glover, or did the latter say that the initial measurements in the skin of cows were from 10 mm. upwards? [Mr. Glover: They might be from 5-10 mm.] Had he not found any normal cows with

a measurement of only 3 mm.? He (Mr. Coleman) got many such. He had found cows with a measurement of from 3-8 mm.; bulls from 13-17.

The other question was what did Mr. Glover mean by the "size of a pea or a bean"; what would it be in millimetres?

Mr. Glover replied that the question of measurement was rather a personal matter: he could quite conceive that Mr. Coleman found a number of cows giving initial measurements of from 3-8 mm. His (Mr. Glover's) measurements in cows ranged from 5-10 mm., and it was probable that he took his measurements a little more loosely than Mr. Coleman. He considered that, within the limits of a millimetre or two, the measurements would work out the same in a herd of one breed. In bulls his measurements went from 15-19, which was a corresponding variation. There was just that slight discrepancy in the method of taking the measurements.

With regard to the pea and the bean, he would say that a swelling of from 5-8 mm. might be likened to the former, and that of from 5-10 mm. to the latter.

Mr. Coleman said that he would instance a cow with an initial measurement of 7 mm. That cow had gone up to a hard circumscribed swelling measuring 15 mm.; he had put it down as a non-reactor, and *post-mortem* examination had proved him right. He had asked his first question to find out if Mr. Glover would have regarded that animal as a reactor.

Mr. Glover replied that he certainly would not regard it as a reactor: one must depend upon the characteristic nature of the swelling.

The members now adjourned to the farm buildings of the County Mental Hospital where, thanks to the courtesy of the farm superintendent, a number of animals were available for demonstration purposes. Six animals were exhibited, each of which had received two inoculations of concentrated glycerine broth and two inoculations of tuberculin, so that the typical non-reacting swelling could be examined and compared with the reacting swelling. Two of these animals were negative to the test and four were positive, the latter presenting very slightly diffuse swellings illustrating the need for careful palpation in order to detect the slight œdema of the reacting swelling which is so frequently overlooked or is classed as a "doubtful reaction."

The technique of the inoculation was also illustrated.

Throughout the period spent at the farm, Mr. Glover was kept busily employed explaining the points of the test and replying to innumerable questions relative thereto. So much time was occupied in this way, in fact, that none remained for the set discussion which had been notified on the agenda, and a hurried return had to be made to the hotel for tea, to enable the members of the party to catch their homeward-bound trains.

Before the company broke up, however, a hearty vote of thanks was passed, on the call of the President, to Mr. Glover, for his demonstration; to the Mental Hospital Committee, for rendering their herd available for the demonstration, and to Mr. Howard Jones, for making the arrangements in connection with the meeting.

Dr. T. W. Wade took the opportunity of expressing, on behalf of the Welsh Board of Health, his appreciation of the action of the Division, with particular reference to the part played by Mr. Glover and Mr. Howard Jones, in arranging for the holding of the meeting and demonstration at Bridgend in accordance with the wishes of his Board and of the Glamorgan County Council. He was confident that the success of the meeting and demonstration would be regarded by Mr. Glover and those who had co-operated with him in promoting and carrying through the programme, as an adequate return for their efforts, for which all were greatly indebted to them. (Applause.)

In the few moments that remained, a member enquired of Mr. Glover if he would recommend injecting glycerinated broth every time, as a control.

Mr. Glover replied that he strongly advocated its use if one had any doubt whatsoever, as the swelling thus produced could be readily compared with that following the tuberculin injection. If, however, one had 70 cows to do it was an arduous task to inject them all four times, as would be necessitated if the glycerinated broth control were used in each case, and he thought it would be sufficient to inoculate a few of the animals. He thought it wise to give a double injection of broth.

The assertion having been made that several witnesses of the demonstration that day had experienced difficulty in interpreting the results of the test, Mr. Glover expressed his regret—and surprise—that that was so. He had picked out the reactors for the demonstration because they showed very definite diffuse swellings. The statement which had been made merely served to show that they must master the technique, for the method of double intradermal testing was now adopted for the graded herds. They must use the glycerinated broth on every cow, if necessary, and if they did so in a couple of herds they would find that their difficulties were beginning to melt away. It was just a matter of a little practice.

C. E. Perry, *Hon. Secretary.*

Detection of Tuberculous Cows.

A Closer Inspection in Derbyshire.

In order that a more systematic inspection should be made to detect cows giving tuberculous milk, the Derbyshire County Council has decided to appoint two full-time veterinary surgeons at a salary of £450 a year each, rising to £600 *plus* travelling allowance of £100. It was also agreed to purchase additional laboratory apparatus at a cost of £100 and to increase the expenditure upon laboratory material by £300 a year.

The Health Committee stated that as milk from Derbyshire went to many big cities where the examination of samples was highly organised, a large number of notices of suspected cases was received. Of 1,027 samples taken from milk entering Sheffield in 1928 6·3 per cent. were found to be tuberculous. The extent of the work which had to be undertaken was indicated by the facts that there were in the county 6,794 holdings of from one acre to fifty acres, and 2,947 larger ones, and that there were 63,767 cows in milk.

Alderman E. Peat, chairman of the Agricultural Committee, who received the support of a number of farming members, opposed the proposal as tending to overlapping of duties.

The proposal was carried by the casting vote of the chairman.

Army Veterinary Service.

London Gazette—War Office—Regular Army.

November 4th.—Major T. Hodgins is restored to the establishment (October 24th).

Mr. C. Wood-Page, F.R.C.V.S.

Testimonial from Banbury and Neighbourhood.

"To mark the retirement of Mr. C. Wood-Page, and as an expression of appreciation of his services to Banbury and neighbourhood as veterinary surgeon, a presentation was made to him at the conclusion of the Banbury Agricultural Association's annual competitions, when he was presented with a cheque and signed testimonial," says an Oxfordshire paper. "An umbrella was also presented to Mrs. Wood-Page. Mr. C. Wood-Page was present at the above-named competitions in an official capacity, as has been the custom for many years past, and a fitting opportunity was seized upon by Colonel H. E. Du C. Norris to make the presentation on behalf of the subscribers.

"Colonel Norris said he honestly thought that he had not been asked to perform a more pleasing duty, because he ventured to think that Mr. Wood-Page and he had known each other as long as, if not longer than, any two people present at the competitions that day. Some months ago, when it was known that Mr. Wood-Page, one of the most respected members of the population of Banbury and surrounding country, was about to give up practice, a practice which he and his father before him had so honourably carried on for what must be nearly a 100 years, it was felt only fitting that some small token of affection and respect should be offered to him. He (the speaker) believed the originator of the presentation was Mrs. Gubbins, of Swalcliffe, and she got into communication with Lord North, and they had been helped by Captain Keyser, as treasurer, Mr. McLaren, Mr. J. Gibbard, and Mr. Millington. Mr. Walker had been asked to help, but he had been unable to do so owing to illness. The Westminster Bank had undertaken the treasurership of the money and it went without saying that the local Press had also assisted. There were 98 subscribers, and there were many more to be added. It was a great pity that that great sportsman, Lord North, could not be there, because he knew how much he would have liked to make the presentation, but they would understand why he could not be present. Out of the money collected not a halfpenny had been used for expenses.

"They all knew what Mr. Wood-Page had done and the vast amount of work he had put in, and the interest he had taken, not only in the Agricultural Association, but the Fat Stock Society and the Horse Show, and everything he had done he had done well. He thought he might say that Mr. Wood-Page had had the entire charge of the equine and canine population of Banbury and the neighbourhood for a great many years. And there was another thing; there were not many of them had not taken a holiday for 50 years, but Mr. Page had never been away from home for a day, and they had always had him at their service. Unfortunately the coming of the motor-car had interfered with his practice, and they were extremely sorry he had had to give up his profession. Of one thing they were glad, and that was he was not going to forsake them, as he was going to live in the neighbourhood.

"Colonel Norris then asked Mr. and Mrs. Wood-Page to receive the gifts, and said it was their cordial wish that they would have a happy future in their new home. He begged Mrs. Page's acceptance of the umbrella and Mr. Wood-Page's of the cheque, assuring them it was a small token of the esteem, affection, and respect in which they were held by all his friends in and around Banbury. Accompanying the cheque was the roll of subscribers.

"In acknowledgment, Mr. Wood-Page said he thanked them from the bottom of his heart. He took it not only as a great honour to himself, but also an an honour to the profession to which he had so long belonged. He had had rather a long innings, and *Anno Domini* had begun to tell the tale. They could not put the clock back, and so he had decided to have a little rest. One mistake Colonel Norris had made was that he said he (Mr. Page) had not taken one holiday. On one occasion he went away for four days, and then he did the most sensible thing he did in his life, and that was to get married. They did some things in this world which they regretted, but that he never regretted.

"A great trouble must have been taken over the testimonial, Mr. Wood-Page continued, and he would like to thank Colonel Norris, Mrs. Gubbins, and all the gentlemen he had mentioned for the work put into it. He could not find words to express how much he appreciated their kindness, and after all those years it was nice to leave a place knowing one had the esteem of one's friends and neighbours. They had also been kind to his wife and he was sure she would like him to say how grateful she was, and to express her warmest thanks. In conclusion Mr. Wood-Page said he again thanked them from the bottom of his heart.

"Mr. and Mrs. Wood-Page will reside at Deddington."

In Parliament.

The following questions and answers were recorded in the House of Commons recently:—

Foot-and-Mouth Disease.

Brigadier-General Clifton Brown asked the Minister of Agriculture whether serum treatment has been applied to any animals which have been in contact with recent cases of foot-and-mouth disease, as suggested in the Ministry's letter of September 22nd, 1930; and what has been the result?

Dr. Addison: One outbreak of foot-and-mouth disease has occurred in connection with which anti-foot-and-mouth serum has been used. The diseased animals and those in immediate contact on the premises on which the outbreak occurred were slaughtered in accordance with the policy of eradication. Thirty cattle and three pigs on neighbouring premises which has been exposed to infection received serum treatment. None of the animals so treated developed foot-and-mouth disease.

Lieut.-Colonel Fremantle: Will the right. hon. Gentleman consider devising a better term than "anti-foot-and-mouth disease"?

Mr. Freeman asked the Minister of Agriculture whether the carcasses of animals injected with serum poison against foot-and-mouth disease are afterwards considered fit for human consumption or, if not, what is done with them?

Dr. Addison: Foot-and-mouth disease serum has no deleterious effect on the flesh of an inoculated animal subsequently slaughtered.

World's Poultry Congress.

Mr. W. B. Taylor asked the Minister of Agriculture whether he will make a statement as to the results obtained from the Fourth World's Poultry Congress, which was subsidised by His Majesty's Government and organised by his Department?

Dr. Addison: I would refer my hon. Friend to a report on the Congress which appeared in the Journal of the Ministry of Agriculture and Fisheries for October, of which I am sending him a copy. From that report he will see that through the cordial co-operation of the poultry industry and all concerned the Congress was very successful, and I am glad to say that it was carried out for a net expenditure well within the limitation of the grant of £5,000 authorised by the Treasury. I should like to take this opportunity of saying how greatly the Press contributed to the success of the undertaking. The newspapers recognised the national value of the gathering and gave space freely with a generosity that compelled attention, and for which I tender my sincere thanks.

Mr. Taylor: Is it not a fact that a large part of the success of the conference was due to the work of my right hon. Friend's Department in organising it?

Dr. Addison: I think that may well be so.

Mr. Mills: Can my right hon. Friend state what proportion of the prize birds was bought on behalf of the agricultural communities of the Russian Government?

Dr. Addison: I am afraid I cannot answer that question.

Mr. Mills: Is my right hon. Friend aware that 70 per cent. of the first-prize birds were bought on behalf of the agricultural societies of Russia?

Calmette Treatment.

Mr. Freeman asked the Minister of Health whether he is

now in a position to make any report on the deaths of 67 children at Lübeck early this year following the Calmette treatment of the Pasteur Institute; and whether the enquiries of the representatives of the Medical Research Council on this matter have now been published?

Mr. Greenwood: I have received a copy of a confidential report made to the Medical Research Council by the two representatives who visited Germany. This report deals with technical matters which are of interest only to research workers, and does not traverse the ground of the official German inquiry, which is being made by the Imperial Board of Health. By the courtesy of the German authorities, I have received copies of two statements on the subject made by the Ministry of the Interior. Mention is made in the first of these statements of the neglect of certain precautions which should have been observed in the administration of the treatment; but the investigation into the cause of the deaths, which involves difficult problems of bacteriology, is not complete and, according to the latest information in my possession, may not be completed for some time.

Deer Forests.

Mr. Millar asked the Secretary of State for Scotland whether he has now considered the Report of the advisory committee appointed to consider what steps should be taken to give effect to the findings of the Deer Forest Commission of 1921; and whether he proposes to introduce any legislation on the subject?

Mr. W. Adamson: Some time ago I arranged a joint conference of the interests concerned with this problem and three weeks ago I received a report outlining proposals for legislation. These are now under my consideration.

Animals (Experiments.)

Sir R. Gower asked the Secretary of State for War what is the number of horses, dogs and other animals, respectively, which have been the subject of poison-gas experiments in Great Britain during the last 12 months?

Mr. Shaw: The following statement shows the number of animals used for experimental purposes at the experimental station, Porton, and in the experiments conducted at the physiological laboratory, Cambridge, on behalf of the War Department.

Statement.

Experimental Station, Porton. 31st Oct., 1929—31st Oct., 1930.

Animals by species.	Number used.	Number killed by the experiment.	Number destroyed as a result of the experiment.
Rabbits ...	130	45	—
Guinea Pigs	197	110	—
Cats ...	68	41	—
Goats ...	6	1	—
Mice ...	202	108	—
Sheep ...	—	—	—
Horses ...	8	—	—
Rats ...	120	61	—
Pigeons ...	—	—	—

Physiological Laboratory, Cambridge. 1st Jan., 1930—31st Oct., 1930.*

	Number used.	Number killed by the experiment.	Number destroyed afterwards as a result of the effect of the experiment.
Rabbits ...	23	23	Nil.
Guinea Pigs	—	—	—
Cats ...	62	62	Nil.
Goats ...	—	—	—
Mice ...	—	—	—
Sheep ...	—	—	—
Horses ...	—	—	—
Rats ...	—	—	—
Pigeons ...	—	—	—

*Figures from 31st October, 1929, to 31st December, 1929, are not readily available.

Sir R. Gower asked the Secretary of State for War what steps are taken to prevent suffering on the part of horses and other animals which are subjected to poison-gas experiments at Government and other experimental stations in Great Britain; and whether he is satisfied that no such suffering takes place?

Mr. Shaw: The officers holding vivisection licences for carrying out poison-gas experiments at the War Department establishment work in strict conformity with the provisions of the Cruelty to Animals Act, 1876. The terms of these licences ensure that no unnecessary suffering is caused to the animals.

Lieut.-Colonel Moore asked the Secretary of State for War whether his attention has been drawn to the reports in the Press in regard to the work carried on at the research station on Salisbury Plain; if any, and, if so, how many, old horses were handed over for experiment in poison gas and in plague bacteria cultivation; and what action he proposes to take to stop such activities on the part of the Government?

Mr. Bromley asked the Home Secretary if he is aware that a number of old horses were being used at the Hampshire research station on Salisbury Plain for the purpose of experiments in the use of poison gases and the cultivation of bacteria for spreading plague; and if he will take steps to put an end to this practice?

Mr. Shaw: I will answer at the same time the question of the hon. Member for Barrow-in-Furness (Mr. Bromley), to which my right hon. Friend the Home Secretary has asked me to reply. My attention has been drawn to certain statements reported in the Press to the effect that 2,000 old horses have been handed over to the experimental station at Porton for experiments in poison gas and the cultivation of bacteria for spreading plague. The facts are that during the period from 1921 to 1930 only 25 horses in all have been used for experiments at Porton in connection with poison gas, but no horse, or indeed, other animal, has been used at Porton for experiments in plague bacteria cultivation. I am advised that the experiments carried out were to enable data to be obtained for preventive and curative treatment in the case of horses affected by poison gases.

Horses (Export).

Sir R. Gower asked the Minister of Agriculture the number of horses exported from this country to Continental ports for butchery purposes during the past three months; and the places at and the methods by which such horses, respectively, were slaughtered?

Dr. Addison: During the three months ended September 30th, 1930, the latest date for which figures are available, the number of horses which were exported to the Continent from this country for immediate slaughter on arrival was 1,083. Of these 998 went to Holland and 85 to France. In Holland all horses are required by law to be slaughtered with the mechanical killer. Information has been received that the 85 horses exported to France were slaughtered at Vaugirard, Paris, with the mechanical killer.

Animals (Slaughter).

Sir R. Gower asked the Minister of Health if he had taken any and, if so, what steps to bring to the attention of local authorities the powers possessed by them to adopt model by-law clause 9b for the humane slaughter of animals; and whether he will consider the desirability of issuing a special circular upon the matter?

Miss Lawrence: There is no reason to doubt that local authorities are well aware of their power to adopt the by-law if they wish, and my right hon. Friend does not think it necessary or desirable that a circular should be issued.

Mr. Freeman asked the Minister of Health how many local authorities in England and Wales have now voluntarily adopted model clause 9 b for the humane slaughter of animals?

Mr. Greenwood: The number is 368.

Vivisection.

Mr. Freeman asked the Home Secretary how many experiments were conducted last year on living animals when inspectors were present and how many in their

absence; and who decides whether an animal is suffering pain when no inspector is present?

Mr. Clynes: As to the first part of the question I would refer my hon. Friend to the reply which I gave him on July 3rd last. With regard to the last part, each holder of a licence is made responsible for seeing first that any animal which is suffering pain that is either severe or likely to endure is at once killed if the main object of the experiment has been attained; and, secondly, that any animal that is suffering pain both severe and likely to endure is at once killed in any case. This requirement is made a condition of the licence, and any infringement of it brought to my notice would be severely dealt with. The Home Office inspector informs me that he is satisfied that the condition is scrupulously observed by the holders of licences.

Mr. Freeman asked the Home Secretary whether the Bemax laboratories, Danemere Street, London, S.W.15, is, or has been at any time during this year, a registered place for the performance of experiments on animals under the Cruelty to Animals Act, 1876?

Mr. Clynes: The answer is in the negative.

Mr. Freeman asked the Home Secretary whether any member of the advisory committee for the administration of the Acts relating to experiments on living animals was appointed to watch and safeguard the interests of the animals?

Mr. Short: The members of the advisory committee are appointed on the ground of their general suitability to advise the Secretary of State. There is no differentiation of function between the various members of the committee, and it is the duty of all of them equally to have regard to the interests of the animals as well as to any other considerations affecting the matters on which they have to advise.

Mr. Freeman asked the Home Secretary what is the method of painlessly killing animals which, under certificate A or B, are found to be suffering pain which is either severe or is likely to endure; whether any record is kept of such cases; and, if so, how many were so killed in each of the last 10 years.

Mr. Short: The usual method is to administer an overdose of chloroform. No record is kept and information as to the number of such cases cannot therefore be given.

Mr. Freeman asked the Home Secretary whether any record is kept of the purpose of every experiment on living animals?

Mr. Short: Every application for a licence and every certificate states the object of the experiments to which it applies; and a record of the nature of every experiment performed is kept by the licence-holders. This record is always open to examination by the inspectors.

Mr. Bromley asked the Home Secretary if he has had his attention drawn to a recent case where a science teacher at Haverthwaite illustrated a lesson to his pupils by the vivisection of a cat, which he had chloroformed for the purpose; whether this teacher had a licence to vivisect and also if the school where the incident took place is a registered place under the Act of 1876; and if he will take steps to prevent such practices?

Mr. Short: My hon. Friend has been misinformed: there was no vivisection in this case. The animal was painlessly killed, and next day its body was brought to school and dissected. Such proceedings are not within the Act and require no licence, and my right hon. Friend has no power to take any action in the matter.

Horses in Mines.

Sir R. Gower asked the Secretary for Mines the number of fatal and non-fatal accidents, respectively, which have occurred to horses and ponies employed in the coal mines in this country during the last six months; and how that number compares with that of similar accidents in other European countries, respectively?

Mr. Shinwell: During the year ended June 30th, 1930, the latest period for which information is available, the number of horses and ponies killed or destroyed in consequence of injury by accident was 1,793. The number injured by accident was 6,116. I regret that similar information in respect of other European countries is not available.

Sir R. Gower asked the Secretary for Mines whether, having regard to the number of fatal and non-fatal accidents to horses and ponies employed in coal mines in this country, he will consider the desirability of instructing the haulage committee of the Safety in Mines Research Board to give special consideration to the matter of what effective steps should be taken to prevent such accidents happening in the future; and if he will publish the recommendations made by that committee as a special Paper?

Mr. Shinwell: The prevention of accidents to horses and ponies in mines is a matter which is already being dealt with by the inspectors of mines. The special investigations of the Safety in Mines Research Board are to be directed to the prevention of the very large number of haulage accidents to men and boys—a serious and difficult problem requiring new and separate study. Facts may emerge in the course of the Board's investigations which will prove of value in connection with the prevention of accidents to horses in mines. I will bear this point in mind when considering whether recommendations shall be published.

Sir R. Gower asked the Secretary for Mines whether he proposes to take any and, if so, what steps to give effect to the recommendations contained in the Northern Divisional Mines Report for 1928, and in a paper recently published by his Department by one of His Majesty's mines horses inspectors, that there should be an efficient training scheme for pony drivers in coal mines; and whether it is his intention to make a regulation fixing the minimum age at which boys shall be allowed to have charge of ponies underground, the same as in the case of those in charge of motor haulage engines underground?

Mr. Shinwell: I would refer the hon. Member to the replies which I gave on July 29th last to questions on the same points by my hon. Friend the Member for Wolverhampton West (Mr. W. Brown).

Sir R. Gower asked the Secretary for Mines whether his attention has been called to the circumstance that the proportionately high death and accident rate among horses and ponies in the Yorkshire coalfield has been continuous from 1924 to 1929; what is the reason why the Yorkshire coalfield should have so exceptionally high an accident rate; and if he proposes to take any and, if so, what measures to secure a reduction in the number of such accidents?

Mr. Shinwell: The abnormally high death rate from accidents to ponies in the Yorkshire coalfield has received close attention from my Department and from the inspectors of mines for some time past in an endeavour to bring about an improvement, and I am glad to say that during the past two years the accident rate has been substantially lower. I know of no good reason why the accident rate to ponies should be higher in Yorkshire than in other coalfields, and the efforts of the inspectors will continue to be directed in every way possible to bring about still further improvement.

Wild Stag Hunting.

Sir R. Gower asked the Home Secretary whether it is his intention to introduce, during the present Session of Parliament, legislation making the hunting of the wild stag with hounds illegal?

Mr. Clynes: I am afraid that it is not possible for His Majesty's Government to take up this subject at the present time.

Dangerous Drugs.

Mr. Mander asked the Home Secretary whether the Government have taken steps with reference to the traffic in opium and other dangerous drugs recommended in the resolution passed by the Eleventh Assembly of the League of Nations and referred to in Document A 78, 1930?

Mr. Clynes: If, as I presume, the question refers to the resolution on the subject of the illicit traffic, no fresh action on the part of His Majesty's Government is required. The measures recommended by the League for the suppression of the illicit traffic are already in operation in this country.

Bill Presented.

Performing Animals (Regulation) Bill.

"To amend the Performing Animals (Regulation) Act,

From The Veterinarian,

September, 1830.

On Professional Conduct.

By Mr. James Kerr, V.S., Southampton.

To the Editors of *The Veterinarian.*

Gentlemen,—I am induced, from an ardent love for my profession and anxiety for its welfare, to offer a few remarks on a subject which I humbly conceive to be of the highest importance to the pupil, but more particularly to the recently graduated veterinary surgeon. I allude to the pupil at the time of his entering the College, his obtaining his diploma, his commencing business, and the conduct which I conceive ought to be observed from him towards his employers, grooms, farriers, horse-dealers, etc. I shall take a youth whose father is either a professional man or in a respectable mercantile employ, holding that place in the scale of society that entitles him to the rank of a gentleman; with a consciousness of this let him enter the College; but this is not done before he has had to encounter the rebuke of those friends who, from the infancy of the profession, have not sufficient knowledge of its importance, and who are, alas! inclined to look upon its members as little better than common farriers and blacksmiths. The anxious youth eagerly seeks for an example of respectability in the profession, and proud am I to say he has many before him. By this kind of argument he obtains the consent of his friends, and enters at the College; and here his love for the study he has chosen is strengthened by observing the ease and cleanliness with which our much-respected Professors are enabled to go through their duty, and the few disagreeables they have to encounter.

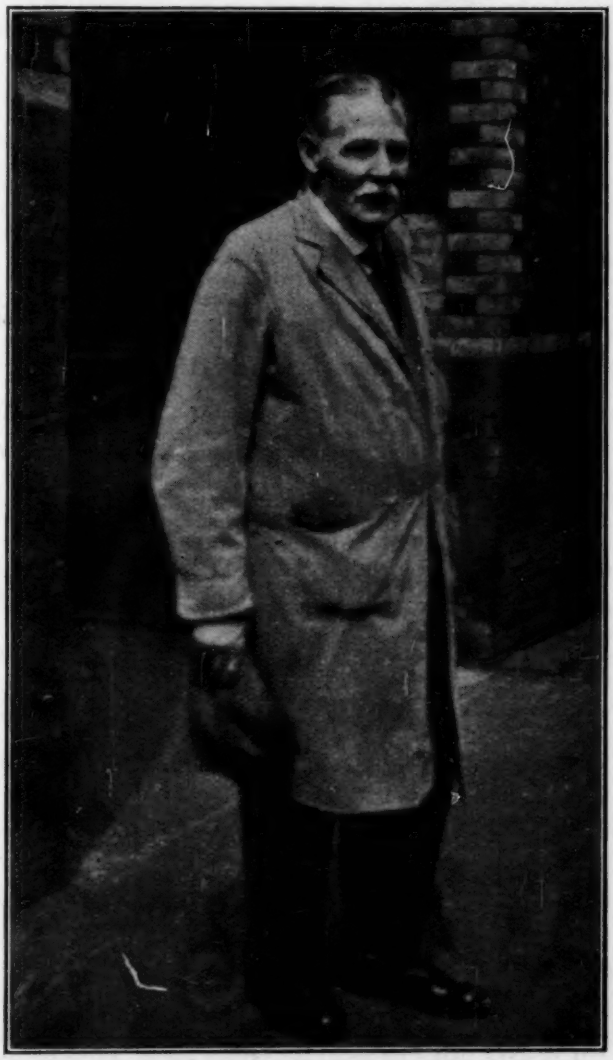
After an attentive pupilage of *two or three years,* he obtains his diploma without much difficulty, and, of course, obtains a situation as an assistant. At last, he determines on commencing business. He is a stranger in the place where he sets himself down; friends he has none, enemies many: the surrounding veterinary surgeons, farriers, and their friends would at once like to see him hooted, and kicked out of the town. He did not expect this; but be not astonished: I would say to him, such, alas, is human nature! In the evening, at the different tap-rooms, he is the subject of conversation among a *most sapient set*; and, no matter what his merits are, the unanimous verdict is, that being a "*wetinary,*" he knows nothing. He takes his "place" on the "course," but with a "false start"; and nothing but previous good *training, hard and substantial food,* and a firm determination to do the "*thing that's right,*" will bring him off victoriously. He is employed at first by a gentleman who takes an interest in his stable, who, after he has obtained much pleasure through the most violent exertion of his noble hunter, will visit the stable, and do everything that can at all contribute to the comfort of his partner in the chase; and who has more feeling than to allow the young vet. to be sitting behind his counter, unconsciously picking the end of his fingers to the quick, while the farrier, by the groom's recommendation, is busily employed in almost every stable. I will suppose the young veterinarian thus employed by some gentleman of good sense and good feeling; and I would beg leave to offer the following friendly advice. Let your conduct to your employers show that you are sensible of the compliment they are paying you.

(To be Continued.)

1925," presented by Mr. Freeman; supported by Major Graham Pole, Sir Robert Gower, Mr. Foot, Lieut.-Colonel Moore, Mr. Lovat-Fraser, Sir Robert Newman, and Mr. Graham White; to be read a Second time upon Tuesday, November 18th, and to be printed. [Bill 41.]

"Harry" Dillon Testimonial Fund.

We have pleasure in giving publicity to the following appeal on behalf of an old and valued employé of the Royal Veterinary College, recently retired, who numbers a host of friends amongst erstwhile veterinary students.



"Harry" Dillon, 1884-1930.

At the end of the summer, 1930, another link with the past was severed at the Royal Veterinary College—"Harry," *i.e.,* Henry Dillon, retired after 46 years. The Governors of the College have recognised his long service, and his closing years will have the comfort and security of a small pension. Owing to the straightened finances of the College, this pension is of necessity small. A few of us met together, and thinking that many old graduates would not like to see "Harry" go without some tangible recognition of our respect and esteem, we have started a Testimonial Fund. We hope to be able to gather a sufficient funds to be able to deal liberally with our old friend and mentor. The duration of Harry's services at the College is nearly without parallel; his ability, industry and old-world courtesy have never been equalled. We call upon all old London Graduates to respond nobly.

(*Signed*) Frederick T. G. Hobday.
George H. Wooldridge.
T. C. Wight.
J. McCunn.
J. Macqueen.
G. A. Tomlin, *Students' Representative.*

PRELIMINARY LIST OF SUBSCRIPTIONS.

	£	s.	d.
F. T. G. Hobday	1	1	0
J. Macqueen	1	1	0
G. Wooldridge	1	1	0
J. McCunn	1	1	0
J. G. Wright	1	1	0
G. W. Clough	0	10	6
T. C. Wight	0	10	6
L. Symes	0	10	6
T. J. Evans	0	10	6
T. Hare	0	10	6
C. Formston	0	5	0
J. W. Holmes	0	5	0
R. Machin	0	5	0
A. B. Orr	0	5	0
J. Stow-Young	0	2	6

Subscriptions to be sent to :—
The Secretary,
Dillon Testimonial Fund,
Royal Veterinary College,
Camden Town, N.W.1.

Notes and News.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Nov. 17th.—Meeting of the Editorial Committee, N.V.M.A., at 2 Verulam Buildings, Gray's Inn, W.C.1, 4.30 p.m.

Nov. 20th.—Meeting of the Veterinary Officers and Public Health Committee, N.V.M.A., at 2 Verulam Buildings, Gray's Inn, W.C.1, 1 p.m.

Nov. 20th.—Meeting of the Scottish Society of Veterinary Inspectors, at Glasgow.

Nov. 21st.—Meeting of the North Wales Division, N.V.M.A., at Rhyl.

Nov. 28th.—Meeting of the Lancashire Division, N.V.M.A., at Manchester.

Personal.

Illness of Professor Macqueen.—We regret to inform our readers that Professor James Macqueen, President of the N.V.M.A., is confined to his bed in consequence of an attack of bronchial influenza. They will share our earnest hope that Professor Macqueen will very soon be able to resume his customary activities.

. . . . .

Appointment.—The Secretary of State for the Colonies has appointed Lieut.-Colonel H. Gamble, F.R.C.V.S., as Veterinary Surgeon, Leeward Islands.

. . . . .

Birth.—SMITHERS.—At "Ayliva," Whitchurch Lane, Edgware, Middlesex, on October 10th, to Captain and Mrs. H. E. Smithers, a daughter.

. . . . . .

Accidents.—A local paper reports that Councillor L. W. Wynn Lloyd, of Carnarvon, met with what might have been a serious accident on Thursday of last week, whilst attending a hunter at Anglesey. The animal kicked him, threw him down and trampled on him. He escaped with a few head injuries which were attended to at Llangefni. He afterwards managed to drive his car home.

. . . . .

We regret to learn, also, that Major T. G. Heatley, of Woodbridge, has also been the victim of a nasty injury from a horse, having sustained a bad kick on the thigh. Fortunately no fracture occurred, but Major Heatley has been ordered rest, as there is considerable effusion in the tendon sheath.

. . . . .

Will.—BEST, Mr. GEORGE, M.R.C.V.S. (62), of Bay View, Northgate, Hunmanby, Yorks (net personalty £977), £3,875.

. . . . .

Municipal Election Success.—Captain W. Tempest Olver, M.R.C.V.S., who occupies the position of Mayor of the Borough of Tamworth, headed the poll by a substantial majority at a recent election held for membership of the Tamworth Town Council, there being seven candidates for four vacancies. The *Tamworth Herald,* in commenting on the report of the poll observed : " The Mayor (Mr. W. T. Olver) has the honour of heading the poll, as was generally expected, from the influence of his own genial personality and the high character of his work in the Mayoral chair."

. . . . .

We are requested to correct the statement (appearing in our issue of November 1st) that the funeral of Mr. A. Holman Berry, F.R.C.V.S., of Parkstone Road, Poole, took place on October 22nd, at Poole Cemetery, following a service at St. Paul's Church. The place of interment was Parkstone Cemetery.

Foot-and-Mouth Disease in Yorkshire.

The Ministry of Agriculture, on Monday night, announced that the existence of foot-and-mouth disease was confirmed at Huddersfield. The usual prohibition of movement order was issued.

A Queen's Memorandum on Cruelty to Animals.

" Queen Victoria's love of animals—a characteristic inherited by all her descendants—is shown in several passages of her recently-published Letters," writes " Peter Simple " in *The Morning Post.* In August, 1886, when everybody in London was infected with an unreasonable fear of mad dogs, she wrote a long Memorandum on Cruelty to Animals, which might almost be described as the Magna Carta of man's four-footed pensioners. " As regards her poor dear friends," runs the first clause, " she would repeat that *no* dogs should ever be *killed* by *police unless* the veterinary surgeon declared they were mad. That dogs who were close to their masters or mistresses or their house door, poor quiet dogs, should be left alone and not molested."

H.M. Stationery Office Publications.

The undermentioned have been published recently. Copies can be purchased though any bookseller, or directly from H.M. Stationery Office, at the following addresses :— London : Adastral House, Kingsway, W.C.2, and 28, Abingdon Street, S.W.1 ; Cardiff : 1, St. Andrew's Crescent ; Manchester : York Street ; Edinburgh : 120, George Street.

	Price Net. s.	d.	*Post Free.* s.	d.
HOUSE OF COMMONS BILLS :—				
Slaughter of Animals. To provide for the humane and scientific slaughter of animals ; and for purposes connected therewith	0	2	0	2½
Rabbits. To make provision for the prevention of damage by rabbits ...	0	1	0	1½

Messrs. Spratt's Patent, Limited, advise us that from last Tuesday, the 11th instant, the prices of all their meat-fibrine dog foods are reduced, the price changes covering small packets as well as the larger bags and quantities in bulk.

Correspondence.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.
All correspondence must bear the name and address of the contributor for publication.
The Editor does not hold himself responsible for the opinions of his correspondents.

The Five-Years' Syllabus (R.C.V.S.).

To the Editor of the Veterinary Record.

Sir,—The experience of the five schools over recent years has made it abundantly clear that considerably more time and facilities, than are made possible by the present four years' syllabus, are required for the teaching and acquisition of Pathology. The average pass in the last five Pathology examinations has been about 50 per cent., comparing unfavourably with the 75 to 80 per cent. pass of ten years ago. I find no evidence to support the contentions that the students are of a lower standard of intelligence, that the teachers have less ability or that the examiners are less capable than their predecessors of ten years ago. On the other hand, I recognise that the average student finds that this ever-expanding subject is the greatest struggle of his whole course, and that his less intelligent colleagues inevitably require two years to approach the pass standard.

I was encouraged by the draft syllabus, circulated by the Examination Committee (R.C.V.S.) for the consideration and report of the schools, to believe that this experience of the schools had been appreciated by Council R.C.V.S. Those responsible for this draft syllabus had rightly conceived, firstly, that the successful application of medical and surgical treatment to the diseased patient depended essentially upon a sound knowledge of the basic sciences of Anatomy, Physiology and Pathology; and secondly, that the time devoted to the teaching and acquisition of each subject of the syllabus should be proportional to the existing knowledge of the subject.

Alas, the report of the Special Examination Committee published in this journal on page 664, leads me to wonder whether the draft syllabus is not in danger of being shorn of much of its wisdom. To crowd Anatomy and Physiology into three terms; to squeeze Pathology, Pharmacology and Hygiene into three terms; and to continue the absurdity of giving equal examination value to the last three subjects leaves the difficulties experienced in working the existing four year syllabus unsolved.

Believing that the five years' syllabus should enable the student to acquire an orderly sequence of knowledge in preparation for examinations, the location of which should be determined by the time required for adequate instruction in the subjects examined, I respectfully suggest the subjects for examination in the proposed five years' syllabus be distributed as follows:—

First Examination (at end of Third Term).

(1) Biology	150 hours
(2) Chemistry and physics	150 ,,
(3) Animal husbandry (Part I)	60 ,,
On three terms' instruction of	360 ,,

Second Examination (at end of Seventh Term).

(4) Anatomy (embryology)	600 hours
(5) Physiology (biochemistry, histology) ...	310 ,,
On four terms' instruction of	910 ,,

Third Examination (at end of Ninth Term).

(6) Animal husbandry (Part II)	120 hours
(7) Pharmacology (Materia Medica)... ...	90 ,,
On two terms' instruction of	210 ,,

Final Examination, Part I (at end of Twelfth Term).

(8) Pathology (bacteriology, mycology, immunology, epizootiology)	340 hours
(9) Parasitology (protozoology, helminthology, entomology	150 ,,
(10) Meat and milk inspection	30 ,,
On three terms' instruction of	520 ,,

Final Examination, Part II (at end of Fifteenth Term).

(11) Medicine (therapeutics, etc.)	420 hours
(12) Surgery (obstetrics, anæsthetics, etc.) ...	450 ,,
(13) Toxicology and jurisprudence	30 ,,
On eight terms' instruction for (11) and (12) of	900 ,,

Upon this syllabus the total number of hours of instruction per term from the fourth to the fifteenth term inclusive would be 228, 228, 227, 227, 195, 239, 238, 175, 175, 175. It enables clinical instruction spread over eight terms to be correlated with Pharmacology and Pathology, and with two exceptions it gives more equal values to examinations than exist at present. The two exceptions (10) Meat and Milk Inspection and (13) Toxicology and Jurisprudence require special examination regulations, *e.g.*, that failure in either should not constitute failure in the whole examination.

May I be permitted to add one further contribution to thoughtful consideration of this very difficult problem before Council? The number of freshmen entering the schools with qualifications entitling them to exemption from the course and examinations in Biology, Chemistry and Physics has been relatively small; but it is evident that this number will steadily increase and will soon embrace the majority of our new entrants. This development of the education received in schools has been recognised in all the recently amended University curricula for the medical qualification by confining the first year's course to the ancillary sciences. Before the syllabus (R.C.V.S.) can be framed a decision either to implement or to disregard the wisdom of Universities must be made—this decision is fundamental. I hope Council will be guided by wisdom; for, as I have attempted to show, a comprehensive five years' syllabus can be framed when the study of Anatomy is commenced in the fourth term.

I am, Sir,
Your obedient servant,
Tom Hare.

Department of Pathology,
Royal Veterinary College,
London, N.W.1.
November 6th, 1930.

The Animals (Anæsthetics) Act, 1919.

To the Editor of The Veterinary Record.

Sir,—As one who is using anæsthetics daily in bovine practice, may I be permitted to state how I have personally been handicapped since the bringing into force of the Animals (Anæsthetics) Act, 1919, and that I wholeheartedly agree with Mr. A. W. Noël Pillers that it is time some alterations should be made, in the interest of both patient and veterinary surgeon. Laparotomy on calves under a few days old (gastrotomy, operation for exposed umbilical hernia with extensive œdema and adhesions of intestines, and certain conditions associated with disease of the navel) was done previously without pain and with greater success with a "local"; now some patients die which would live if the Act were not in force. To give a "general" to some young calves suffering from serious shock is a means of quietly putting the patient to sleep—not the kind wanted by the surgeon! What would the human surgeon have to say about this, not to mention the parent? I am not quite sure, but I think that some human surgeons perform the operation for congenital stricture of the pylorus in babies with a "local," within a few days of birth.

In spinal anæsthesia in the bull, the penis is pendulous within a few minutes, and a growth of the penis or sheath can be dissected away without pain, and I feel that amputation of the penis should be done in the interest

of the patient. Personally, I do not think a "general" should ever be used when the operation can be done painlessly with a "local," and I do not doubt that "human" anæsthetists would agree.

There are many other points one could write about, but it is the intention, by writing this letter, to express satisfaction in reading the article on the Act in the *Record*.

Undoubtedly the Act has been the means of alleviating suffering of animals, but neither the surgeon nor the lives of many patients has been considered.

Yours faithfully,
OSCAR STINSON, M.R.C.V.S.

"Charnwood,"
Appleby,
Westmorland.
November 10th, 1930.

The Castration of Aged Boars.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—I was very interested in the article by Mr. A. W. Noël-Pillers on "The Animals (Anæsthetics) Act, 1919," in to-day's *Record*. In view of his wide experience, perhaps he might give us the benefit of it, especially in regard to the use of a suitable anæsthetic for the castration of aged boars. This is a bugbear to the Eastern Counties practitioner, and if he could evolve a humane method for this operation I, personally, should be his debtor. No matter what the legal aspect of surgery may be, we, as veterinary surgeons, are bound, as much as in us lies, to operate in as humane and painless a manner as possible. The present method of operating on boars leaves very much to be desired.

Yours faithfully,
JOHN M. BUCHANAN, M.R.C.V.S.

Stowmarket.

Contagious Abortion.

A SUGGESTED LINE FOR EXPERIMENTAL RESEARCH.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—In a recent issue of your *Veterinary Record* there appeared a report of a meeting of the Mid-West and South Wales Veterinary Association, whereat the important disease of contagious abortion was discussed after an opening by Mr. O. Stinson.

The discussion which followed the opening reminded me of a similar discussion on the same disease which had been before a meeting of the Association, about five years previously, at which I had been present. The point which impressed me most while reading the report was that the views of the members at the two meetings were practically the same, and that no advance had been made. The several members at each meeting were almost equally divided in reporting exactly opposite results of vaccination, whether of the live or dead vaccines, from different sources.

I also call to mind that, at the first meeting, Captain Aveston, of Bath, asked me to give an opinion on the subject, and which at that time I expressed with some diffidence, but of which I now feel more confident, *i.e.*, that we are dealing with a number of different strains or types of the same disease.

I have used the live vaccine when it has apparently acted like a charm; at other times its use has been a complete disappointment. Similarly with the dead vaccine. When we call to mind that the causative bacterium producing so-called Malta fever in man is morphologically and culturably indistinguishable from that causing contagious abortion in cattle (and I suppose, in addition, in goats), it is not surprising that different strains of contagious abortion in cattle would be still more difficult to differentiate. No doubt, however, this can be accomplished, as it has been in the case of foot-and-mouth disease. In connection with this, it occurs to me that with outbreaks of contagious abortion in valuable herds it should be profitable and worth while to have the vaccine produced in an autogenous form.

Yours truly,
WILLIAM S. STEVENS (Major).

c/o Glyn, Mills & Co.,
3, Whitehall Place,
London, S.W.1.

Biological Products in the Treatment of Disease.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—Recent editions of the *Record* have given us the advantage of reports of the use of Extract of Spleen in eczema, thyroid and also Cutter's Homologous Anti-Distemper Serum in the treatment of distemper, and I am sure that we are all appreciative of the trouble taken by your correspondents in publishing the results observed by them. As I was perhaps one of the first to make use of the above-mentioned preparations, it gives me great pleasure to hear of such excellent results from them, for, to be quite candid, I have so far found them useless in the respective diseases. Extract of spleen (Splenoxoid) has, however, rewarded me with astonishingly good results in tuberculosis and some debilitating conditions. It would be of great advantage if other members would publish the results obtained by the use of the various biological products.

In conclusion, I should like to draw attention to the use of Scarlet Fever Streptococcus Antitoxin (P.D.'s) in the treatment of metritis. Sometime ago I had a Pekingese bitch with septic metritis following dystokia, and, judging her to be as good as dead, as a last resource I tried a dose of the antitoxin, which I had at hand for other uses. The following morning the temperature had fallen from 106° F. to 104°, and the bitch was able to stand. I gave her another 2 c.c.; the next day there was very little uterine discharge; temperature 102°, she was taking her food and was her usual lively self. Other cases have been equally satisfactory, except for an old bitch that was too far gone to expect any response to treatment.

Thanking you,
I am, Sir,
Faithfully yours,
REG. F. WALL.

128 Queen's Road,
Bayswater,
London, W.2.
November 4th, 1930.

Curative Serum in Distemper.

TO THE EDITOR OF THE VETERINARY RECORD.

Sir,—If you will allow me to encroach on your space once more, I would like to mention that Major Dunkin has written to me and pointed out that my statement that he and Dr. Laidlaw had been unable to produce a curative serum is incorrect. He enclosed a reprint from the *Journal of Comparative Pathology and Therapeutics*, of September, 1928, in which he shows that they have been able to produce a curative serum. I hope Dr. Laidlaw and Major Dunkin will accept my apology.

Yours faithfully,
H. E. SMITHERS.

"Conniston,"
Whitchurch Lane,
Edgware, Middlesex.
November 10th, 1930.

The Editor acknowledges the receipt of the following:—

Report of a meeting of the Yorkshire Division, N.V.M.A., from Mr. S. Sharp, Hon. Secretary.

Communications from Mr. T. le Q. Blampied (Jersey), Mr. J. M. Buchanan (Stowmarket), and Captain A. W. Noël Pillers (Liverpool).